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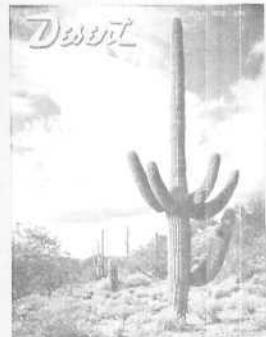


Volume 35, Number 6

JUNE, 1972

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### THE COVER:

Appearing as if its majestic arms are reaching toward the sky, a giant saguaro thrives in the desert region of Southern Arizona. The saguaro is the largest cactus in the United States and they average from 20 to 30 feet in height, but some exceed 50 feet and weigh up to 10 tons. Photo by David Muench, Santa Barbara, California.

#### FIGHT TO PRESERVE OUR ANCIENT PAST

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*Jack Pepper*

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*George A. Thompson*

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#### RAINBOW OBSIDIAN

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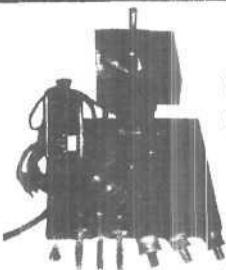
ELTA SHIVELY, *Executive Secretary*

MARVEL BARRETT, *Circulation Manager*

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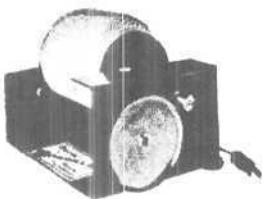
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LOTTIE M. SHIPLEY



# A Peek in the Publisher's Poke

Rat's Scrapbook, a potpourri of news and tall tales about the desert and his friends.

When ill health forced him to retire to the Motion Picture Country Home and Hospital five years ago the "fort" fell into disrepair and last year was condemned by the county. But through the efforts of Harry's daughter, Mrs. Amy Fern Deily, and her husband, Emil, it has now been restored and visitors are welcome. Fort Oliver is visible from Interstate 10 adjacent to the Thousand Palms overpass and will be time well spent next time you are in the area. We salute the Deilys for their success in restoring the historic monument . . . and wish Harry many more years of spinning tall tales.

The accompanying photo of Harry Oliver is the work of another 83-year-old "youngster", Harry Vroman, a long-time friend and contributor to DESERT Magazine. With Harry Oliver's wit and Harry Vroman's camera, the desert has been a better place for all of us.



The 13th Semi-annual Flea Market to be held Sunday, May 21 in Lancaster, California, will give our readers an opportunity to fill in their library of back issues as two booths have been reserved for the sale of both current and back issues of DESERT Magazine. Our Field Trip Editor, Mary Frances Strong and her photographer-husband, Jerry, will be on hand to help man the booths. This is the largest Flea Market in California—over 22,000 attended the one-day event last fall—and should afford an opportunity for some good "finds." Hope to see you there.

If you had your pet tortoise before March 1, 1972, you don't have to give him up. That's the recent ruling by the Department of Fish and Game and it clears up a lot of confusion. A regulation making it illegal to pick up or own a tortoise was passed on March 1, and as a result hundreds of pet owners turned their tortoises in to state "tortoise centers."

So keep your pets if you had them before March 1. But DO NOT pick up, purchase or keep in your possession a tortoise acquired after that date as you are subject to a fine and possible jail sentence.

William Deily

# Book Reviews

by Jack Pepper

All books reviewed are available through  
Desert Magazine Book Shop

BAJA  
CALIFORNIA  
MAP AND  
GUIDE

Compiled by  
Walt Wheelock



With the number of off-road races held during recent years and the increasing influx of *norteamericanos*, the once easily recognized road winding through the wilderness of Baja California is now one of by-roads and detours.

In addition, there is a major improvement program underway which only leaves approximately 450 miles of the 1,000-mile peninsula unpaved. However, these 450 miles are rugged and isolated where the first-time explorer can easily get side-tracked. (And so can the seasoned travelers.)

Veteran Baja explorer Walt Wheelock has just published an up-to-date guide and map for those who want to see "the last wilderness frontier" before it becomes too commercial and crowded.

Author of several books on Baja, Wheelock's newest guide is designed to fit in the glove compartment and has an easily-read and handy fold-out map with detailed information which coincides with the text. Although the guide is only 18 pages, it is crammed with information on road conditions, regulations, how to conduct yourself and other pertinent facts needed to make your trip a success.

For first-time travelers he has an excellent chapter on "Preparation and Supplies" detailing what you should take and what you do not need for the trip.

Gerhard and Gulick's *Lower California Guidebook* (available through the Desert Magazine Book Shop) is still the "bible"



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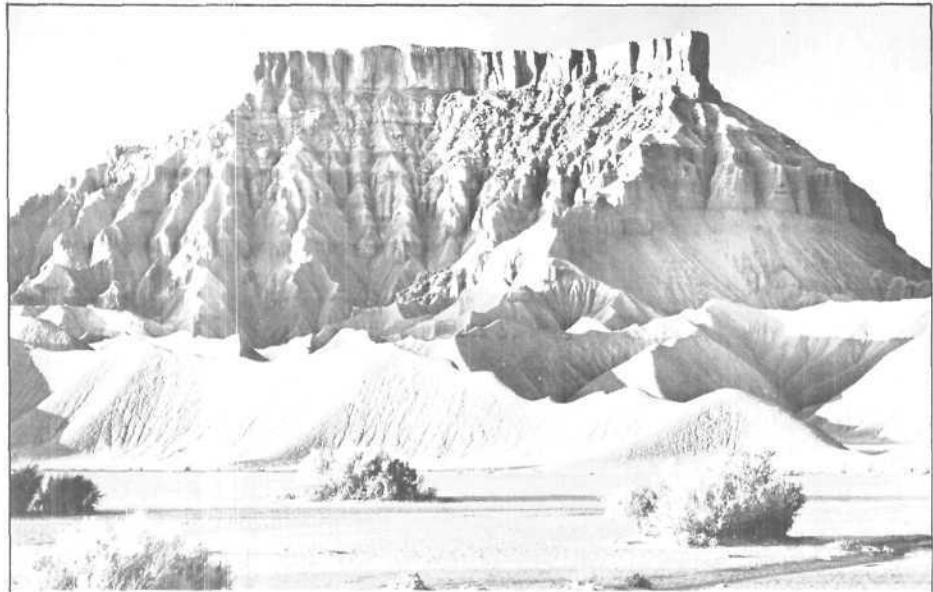
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but Wheelock's new guide is a needed addendum for both novice and seasoned Baja travelers. It also lists other publications on Baja. The price of \$1.95 will save you time and money in the long run—and it is a "long run" down the peninsula!

**WILY  
WOMEN  
OF THE  
WEST**  
*By  
Grace  
Ernestine Ray*



The Old West not only had "good guys and bad guys" but it also had "good gals and bad gals." However, whereas the males were either good or bad, their counterparts were not as easily defined.

It seems that many of the "bad gals" had some good traits while many of the "good gals" had some very bad habits. At least that's the impression you get after reading Grace Ray's *Wily Women of the West*.

The author has evidently done a great deal of research and delved deeply into the lives of women whose names live on in Western lore. She not only tells of their exploits, but through her deft writing ability, makes these fascinating and conflicting personalities live once again.

Some used bullwhips as well as rifles for weapons and most had violent and explosive tempers. Some had charm and beauty; some had talent and luck at gambling, while others were gifted with courage and compassion.

Included in this cast of characters are Belle Starr, horse thief and consort of outlaws; Cattle Kate, Wyoming homesteader lynched on cattle rustling charges; Sadie Orchard, stagecoach driver and terror to outlaws; Gertrudis Barcelo, Santa Fe gambler and monte dealer; Lola Montez, European ballerina, and the fascinating "Unsinkable Molly Brown."

They weren't all good and they weren't all bad, but they led lives of adventure and were a vital part of the exciting life of the Old West. Hardcover, illustrated, 155 pages, \$5.95.

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Books reviewed may be ordered from the DESERT Magazine Book Shop, Palm Desert, Calif. 92260. Please include 50c for handling. California residents must add 5% sales tax. Please enclose payment.



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# Fight to Preserve Our Ancient Past

by Tom King

Senior Archeologist,  
University of California  
at Riverside

**O**N A WINDY and freezing weekend in the Ord Mountains, volunteer archaeologists from Barstow City College and the University of California at Riverside carefully trowelled the loose, rat-smelling contents of a small dry cave, breathing through dust masks as they drew detailed maps and took scores of photographs.

They had come to salvage what remained of the archaeological story of the cave, which had been discovered and was being destroyed by private collectors, but they were too late. Gaping holes had already been cut into the ancient deposit, and the archaeologists' careful techniques yielded little information.

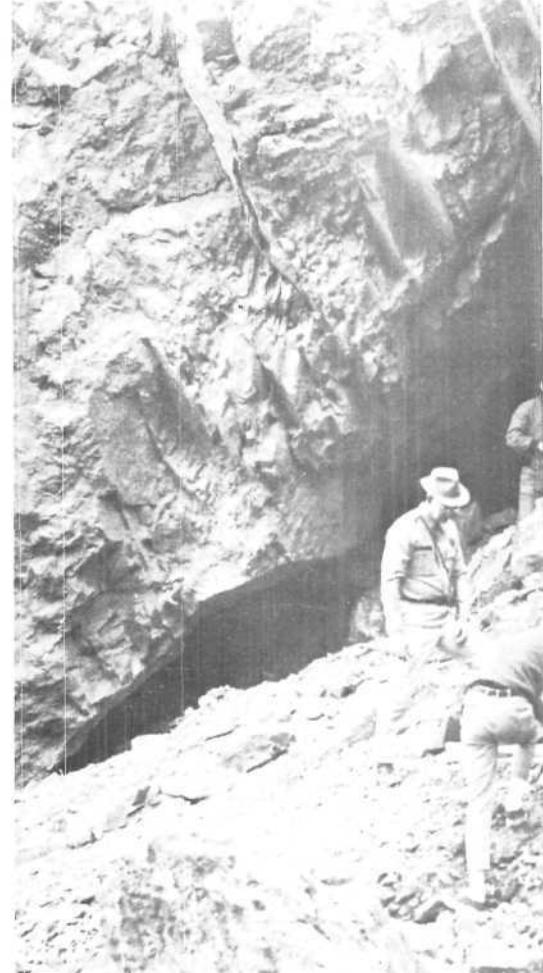
The artifacts ripped out by the collectors, even if eventually relocated, would tell little, for it is the precise location of objects in the ground, as left there by their users, that tells archaeologists about past human behavior.

In Wild Horse Canyon in eastern San Bernardino County, a road and campgrounds built by the Bureau of Land Management churned through prehistoric Indian village sites, and users of the area began to dig into rockshelters in which the ancient inhabitants of the area had cached baskets and tools.

The Archaeological Survey Association of Southern California and the San Bernardino County Museum applied for a permit to conduct a salvage excavation in the damaged sites, before more destruction could occur, but by the time the federal red tape could be cut, several sites had been completely destroyed.

On the edge of the Coachella Valley in central Riverside County, a flood control channel to be built by the Corps of Engineers threatened an important Cahuilla Indian village site. Archaeologists notified the National Park Service, which is mandated by law to fund archaeological research in advance of Corps projects, but nothing was done. At the last minute a volunteer crew from U.C. Riverside conducted an urgent salvage excavation, but only after bulldozers had plowed through two ancient houses and swept away a good part of the site.

Such reports as these come in almost daily to my office—petroglyphs are being quarried away near Blythe, kids on trail bikes have found a cemetery somewhere north of Barstow and plan to dig it up if someone doesn't stop them, and dune buggies are wiping out ancient trails and



house rings around Stoddard Valley, an oilfield will cover ancient trails and shrines in Imperial County, a new area is to be opened up to off-road vehicles and no one knows what archaeological sites may exist there.

It is my job, as the Eastern California District Archaeologist for the Society for California Archaeology, to try to do something about them. I'm trying, and the 15 archaeological institutions and organizations that make up our Society's California Desert Archaeological Committee are trying, but if we're going to be successful we need your help.

Archaeological sites are among the most destructible of the Desert's resources. They are fragile—many exist only on the surface; if you pick up the artifacts or drive around on them they disappear altogether. Even those that contain buried remains can't stand too much disturbance, and ANY disturbance displaces material whose location could, if properly recorded, provide archaeological data. And archaeological sites are irreplaceable; they can't be replanted or regrown. Once such a site, or any fraction of such a site, is gone it is gone forever, beyond anyone's power to bring back.

Archaeological sites have an importance to the modern world, too, that is seldom understood. The purpose of scientific ar-



*The men who discovered Newberry Cave (left) near Yermo, in 1933 reported their find without disturbing the artifacts. As seen from the air, the giant intaglio (right) near Blythe is in constant danger of destruction.*

through a well-planned research program. He will begin his field work with surveys to find out what kinds of archaeological sites exist in his area; each will be recorded and mapped. Excavation will be undertaken where necessary to answer appropriate questions, and no more will be done than is absolutely necessary, for excavation is a form of destruction.

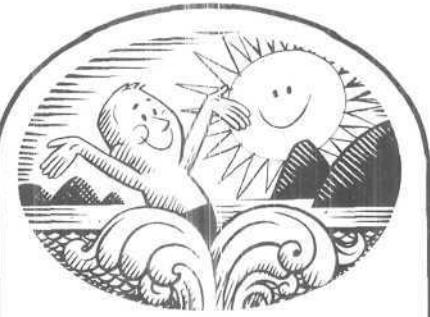
No archaeologist can record all the information there is in an archaeological site—the faint changes in chemical content of the soil, the scarcely-detectable changes in compaction or particle size, the scatters of tiny fragments of animal bones, seeds and stone flakes. Recognizing that he can't record everything, the responsible archaeologist excavates as little as possible, leaving as much as he can for future researchers with new questions, new techniques.

The excavation, of course, is not an end itself; it is followed by months of laboratory analysis—plotting the distributions of artifacts within the excavated sites, studying manufacturing techniques and use-marks on the tools, identifying the animal bones and plant remains recovered, reconstructing the plan of the community from the excavation maps, obtaining the age of the sites through radiocarbon analysis. That's what happens ideally, and that's the kind of research that produces hard answers to real questions.

But by and large, it is not the kind of research we're permitted to do in the California Desert. Here we work on the run, contestants in a frantic race to keep ahead of the bulldozers and the vandals, trying to record everything we can think of that might be useful to archaeologists now and in the future, in the brief time that most of the Desert's archaeological sites have before their destruction.

If we are to save anything of the Desert's prehistory, we need your help. You, as a user of the California Desert, can mean the life or death of its past. There are some 15 archaeological institutions in and around the Desert, not nearly





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*The author digs into an archeological site. The next day it was completely covered by bulldozers.*

enough to keep ahead of the rate of destruction. The University of California, Riverside, has one of the largest staffs devoted to archaeological salvage problems — me.

We also have three archaeological faculty members who can devote some time away from teaching to local field work, and a handful of graduate and undergraduate students who have sufficient training to lead field parties—when they have time away from studies and jobs. Many other institutions are staffed entirely by volunteers, often with little formal archaeological training; the time they can devote to archaeological field work, and the skills they bring to such field work, are often very limited.

All in all, we probably have the equivalent of about four full-time professionals and a dozen well-trained avocationalists to take care of all the urgent archaeological problems of the California Desert. If we don't have the support of an aware and concerned public, the Desert's past will not survive.

There are many things that you as a user of the California Desert can do to help. First and foremost is something you should NOT do: DON'T BE A POT-HUNTER. A pothunter is the guy who's always picked up the artifacts off the surface site before we get there to plot their locations and study community structure. He's the one who's dug ragged holes in the middle of all the house rings looking for artifacts, or who's dug up the cemetery to take skulls home to grin on his mantelpiece, or who's chopped the petroglyphs off the rocks to frame his fireplace.

He's destroyed the pieces we need to put together the jigsaw-puzzle of the past, and he's done it so he can have a nice private collection. Altogether a very selfish fellow, and much to be discouraged. If you find an artifact, unless you have reason to think it is in some kind of definite

*Indian petroglyphs which has been partially destroyed by vandals. Destruction or removal of artifacts from government land is a Federal offense.*



danger, LEAVE IT ALONE.

If you do feel that you have to pick it up—that if you don't somebody less responsible will—then keep a good record of where you picked it up. At least be able to locate the general site on a map, and better yet, also make a map of the site showing exactly where you picked things up.

But what can you do that is really positive? Perhaps the first thing is to learn a bit about archaeology and the nature of prehistoric sites in the California Desert, and if you write me a letter c/o *Desert Magazine*, telling me your particular interests, I'll send you a list of appropriate references.

Another important thing is to support your local archaeologist. Urge your state





California Desert—four in California, two in Nevada—can be obtained by writing to *Desert Magazine*, along with the Society for California Archaeology, the statewide organization of professionals and avocationals.

With or without an organized avocational group, you can do your own surface surveys, recording important data without too much prior experience. One of the most useful surveys in the western part of the Desert, for example, has been one by a writer from Los Angeles who has escaped the crowds on weekends by systematically walking a complete mountain range, recording all kinds of archaeological sites.

The job has taken some five years, and is not nearly complete but, as he says with a shrug: "it beats watching TV." Almost anyone, with a little training and a great deal of patience and care, can do such a project, and you name the area. If it's in the California Desert it probably has not been adequately surveyed. Some areas really urgently need systematic surveys—areas that are undergoing urban development or being heavily used for outdoor recreation; such areas are sometimes depressing places to spend your weekends, but the job needs to be done, and there aren't enough archaeologists to do it.

Wherever you go in the Desert, if you find an archaeological site you should report it. Standardized "site survey forms" can be obtained from *Desert Magazine* or from the San Bernardino County Museum, Bloomington, California 92316.

The complete forms should be returned to the Museum. If you find and report a site, be sure to let us know whether it's in danger of destruction, and what sort of destruction it's in danger of. This permits us to assign a priority rating to the site and forward the form if necessary to an institution that can do something about salvage excavation or preservation.

Finally, you can encourage adherence to the Antiquities Law, which forbids disturbance of archaeological sites on public lands and requires public agencies to fund archaeological salvage when their activities endanger archaeological sites. These laws aren't as strong as they could be, they are sometimes misapplied, and they are sometimes ignored by public and private agencies alike, but they are all we've got and they should be obeyed. Only if we respect the law can we pass on to the future any reasonable part of the California Desert's prehistoric heritage. □

and federal legislators to enact legislation to protect archaeological sites and to support archaeological research and salvage. Encourage your county and city officials to do the same. Support your university, college, or museum. The San Bernardino County Museum, for example, will soon be moving to new quarters and hopes to build a really modern, well-staffed facility. To do so, the Museum will need public support, money, and the expressed interest of all who enjoy the deserts of San Bernardino County.

You can involve yourself directly in archaeology by joining a responsible avocational archaeological society. Not all such societies are responsible; some are pothunting clubs. Names and addresses of six societies that do good work in the



# RAINBOW'S END...

**begins with a**

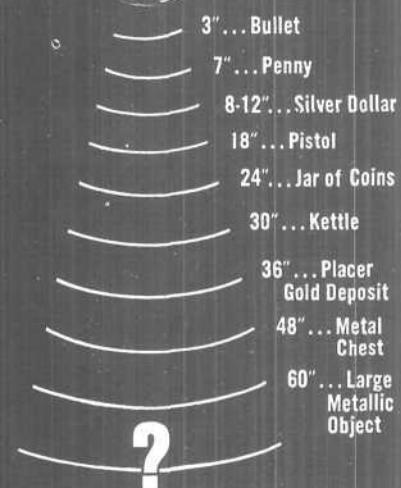
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# DESERT



Archeologist Robert L. Edwards and Ann Carmean, one of his students, (above) label Indian potsherds and organic material which were later classified at their Cabrillo College of Aptos. Students (below) use tweezers to pick material from the sand which is then placed in labeled jars.



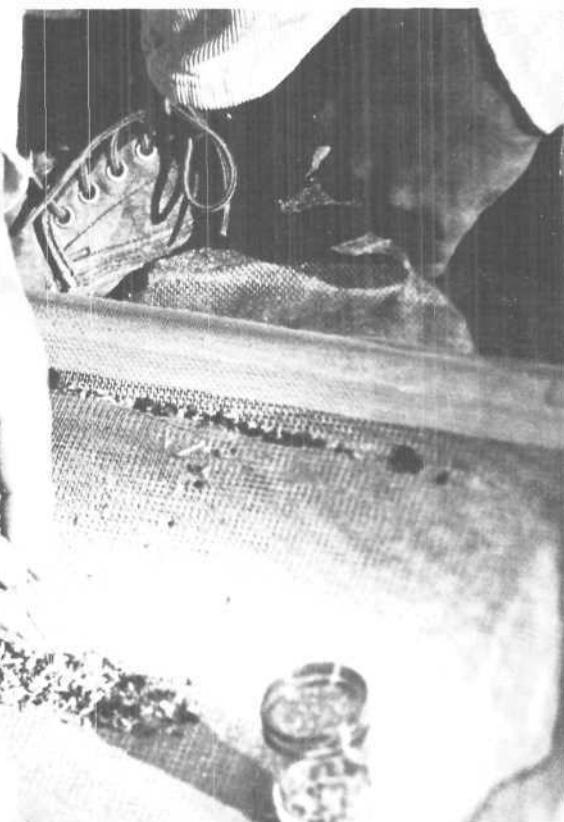
**W**HAT HAPPENS to a human society when its environment disintegrates? Historians, sociologists, authors and statesmen are asking this question today and are comparing the decline and fall of the Roman Empire with our present-day civilization.

It's also a question being asked by archeologists who are attempting to find the answer by digging into the sand dunes of Southern California's Riverside County as they begin a study of Coachella Valley prehistory.

The Coachella Valley, which extends from above Palm Desert to the Salton Sea, is an extensively important archeological area since it was formerly the site of the Blake Sea (also called Lake LaConte and Lake Cahuilla).

The sea was formed about 2,000 years ago when the Colorado River flowed into the Valley and flooded it to a depth of about 45 feet above sea level. Since that time the sea apparently rose and fell several times, at last drying up by the time the first Spanish expedition under the leadership of Captain Juan Bautista de Anza crossed its salty floor in 1774.

At its height, the sea apparently supported abundant fish, shellfish and migratory birds and was the focus of a very large Indian population. These Indians left their house ruins, burials, artifacts and food debris in the sand dunes and on the alluvial fans surrounding the sea, where they can be seen, in part, today.



# DIGGINGS

by Jack Pepper

During its existence, the sea nearly or completely dried up; in the course of as little as a single generation, the environment that supported the large Indian population disappeared. What happened to the communities? No one knows, though presumably the present-day Cahuilla Indians are descended from them.

The exact effects of the sea's dessication are now being studied by archeologists from the University of California at Riverside. Among the questions being asked are: Did massive warfare develop? What happened to the size and distribution of the population and, what social changes took place?

"These are hardly academic questions," Tom King, UCR's Senior Survey Archeologist told *Desert Magazine*. "About the only major difference between what happened to the people of the Blake Sea villages and what's happening to the modern world today is that they weren't themselves responsible for wiping out their environment."

The first of the important excavation projects was completed in early 1972 near Indian Wells. An archeological class from Cabrillo College of Aptos under the direction of Robert Edwards spent a week under the hot sun collecting surface samplings which will be evaluated to gain an understanding of the environmental changes of the prehistoric civilization.

Hopefully, their endeavors and those of other archeological teams will help us better evaluate our present-day environment.

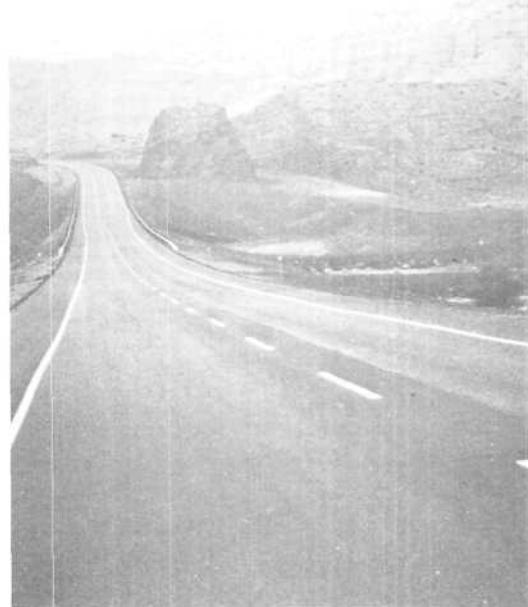


At this site, Ron Abmqvist and Neysa Carpenter, archeology students, (above) discovered a comparatively large amount of bird bones—small parts to the archeological jigsaw puzzle. Diggings (below) are marked in squares and diagrams drawn showing where material was found.



# FREEWAY TO A HIDE-A-WAY

by George Thompson



INTERSTATE 70 stretches almost straight as an arrow across the beautiful but seldom seen San Rafael Reef country of central Utah's Emery County, crossing outlaw trails long forgotten, and passing by hideouts unused since the days of Butch Cassidy.

Lost pony tracks left in the sands of Goblin Valley and the Sinbad Desert by riders of the Wild Bunch are now covered by the drifting sands of a half century, but the trails they rode are being explored again, thanks to the wide lanes of newly laid black asphalt which stretch from the Green River on the east to the vermillion-colored foothills of the Fish Lake country to the west.

Its seventy-mile length is the longest single stretch of new highway built since the Alaska Highway was completed, and the raw new country it gives the public access to is as remote and beautiful as any in the West. The Old Spanish Trail crossed the San Rafael Reef, a hundred miles of jagged rocky cliffs, whose immense pinnacles stand like the ruins of some ancient city against the blue desert sky. But the Spanish claim to the San Rafael country was a vague and short lived one, challenged by fierce Ute warriors, later by fur trappers and mountain men, and finally by Mormon colonizers.

The first efforts to settle the area were made in 1855 by the Elk Mountain Mission of the Mormon Church. By mid-summer a small fort had been built near present day Moab and a few Indians were bap-

tized, but apparently Ute tradition and Mormonism were not compatible, for only a month later three of the Mormons were killed and the mission was abandoned.

Twenty years passed before white men again braved the dangers of the desert. The McCarty brothers of bank robbery fame throughout the West, later killed while robbing the Farmers & Merchants Bank at Delta, Colorado in 1893, were probably the next settlers of the San Rafael. The Indians stole their cattle and horses faster than they could raise them so they moved on, also, leaving the Swasey brothers to be among the first permanent settlers to call the reef their home.

Joseph Swasey was familiar with the San Rafael country by the 1870s. His initials, carved in 1874, have been found in Coal Wash. By the early 1880s, he was joined by his brothers Sid, Charley and Jack in running a cattle ranch and a herd of some 800 horses. Joe and Sid were both big men, weighing over 200 pounds, while Charley was tall and thin. Jack was an adopted brother, an Indian. Sid had a mean disposition and the reputation of being a bad man to tangle with. At times he rode with Butch Cassidy and other members of the Wild Bunch who "holed up" on the reef.

Just when the Swasey brothers discovered the Refrigerator Cave isn't known, but it soon became a vital part of their ranching operations, a place where outlaws met to buy and trade horses and to hide from lawmen who were following their trail.

In the glaring hot red rock and sand wastes of the San Rafael, the Refrigerator Cave was a welcome sanctuary, as well as a place of safety in the desert.

A narrow slit in a sandstone cliff opened into the cave, where cool water dripped from the roof, keeping the temperature always cool inside, as well as being the only dependable water supply within miles. Towering cliffs ran east and west from the cave, a near impassable canyon lay to the south, while miles of unbroken desert stretched northward, making the cave a perfect place for men "on the dodge" to hide out.

A corral for cattle was built near the mouth of the cave and from a meat pole just inside its entrance fresh beef was kept hanging for cowboys and "long riders" alike. That old meat pole can still be seen in the cave today. The damp cave provided a temporary shelter until a brush hut could be built, later to be replaced by a sturdy cedar log cabin. What stories that old cabin could tell of outlaws, posses, night riders, and treasure chests! With a dependable vehicle, good weather, and a little bit of luck you can visit Swasey's Cabin today.

The seventy-mile stretch of Interstate 70 runs from the junction of U.S. 6-50 just west of Green River City to its temporary end at Utah Highway 10 at Fremont Junction. There are no services along its entire length, and practically none at Fremont Junction, so it's wise to "fill 'er up" at Green River.

*Utah's new Interstate 70  
opens the San Rafael desert country  
to explorers and rockhounds*

are high on the cliffs to the southwest.

At a point approximately 37 miles from Green River two ruts lead southward through deep sand and past towering cliffs. It is only about two miles to Swasey's Cabin, depending on which set of ruts you follow, and you probably won't see it until you are nearly there, for cedar trees grow thick around it. The old cabin

stands square and solid near the foot of a towering cliff. Its logs are silver-grey with age, and most of its roof poles have fallen with the weight of years. The Refrigerator Cave is only a short walk to the west. Camp overnight if you're not afraid of ghosts, for it's a mighty spooky place!

The San Rafael country is a fascinating place to visit, where you won't be crowded with tourists. It's a country of strange names, like Jackass Bench, Secret Mesa, Head of Sinbad, Devil's Canyon and Cliff Dweller Flat. Another is Swasey's Cabin, a place for today's adventurer. □



Interstate 70 begins six miles west of Green River, and 13 miles west is Black Dragon Wash, where ancient pictographs can be found at the end of a mile long hike north of the highway. At a point about 34 miles from Green River, watch for a faint road going to the south.

For those interested in rockhounding, this road leads to a fantastic deposit of petrified wood. Whole logs can be found, but this road should be followed only in good weather, with a dependable pickup or four-wheel-drive vehicle. Although this road forks often, follow the better traveled forks to where a right hand fork crosses a deep wash. You can park here or drive up the wash for about a half mile to the collecting area. The larger pieces of "wood"

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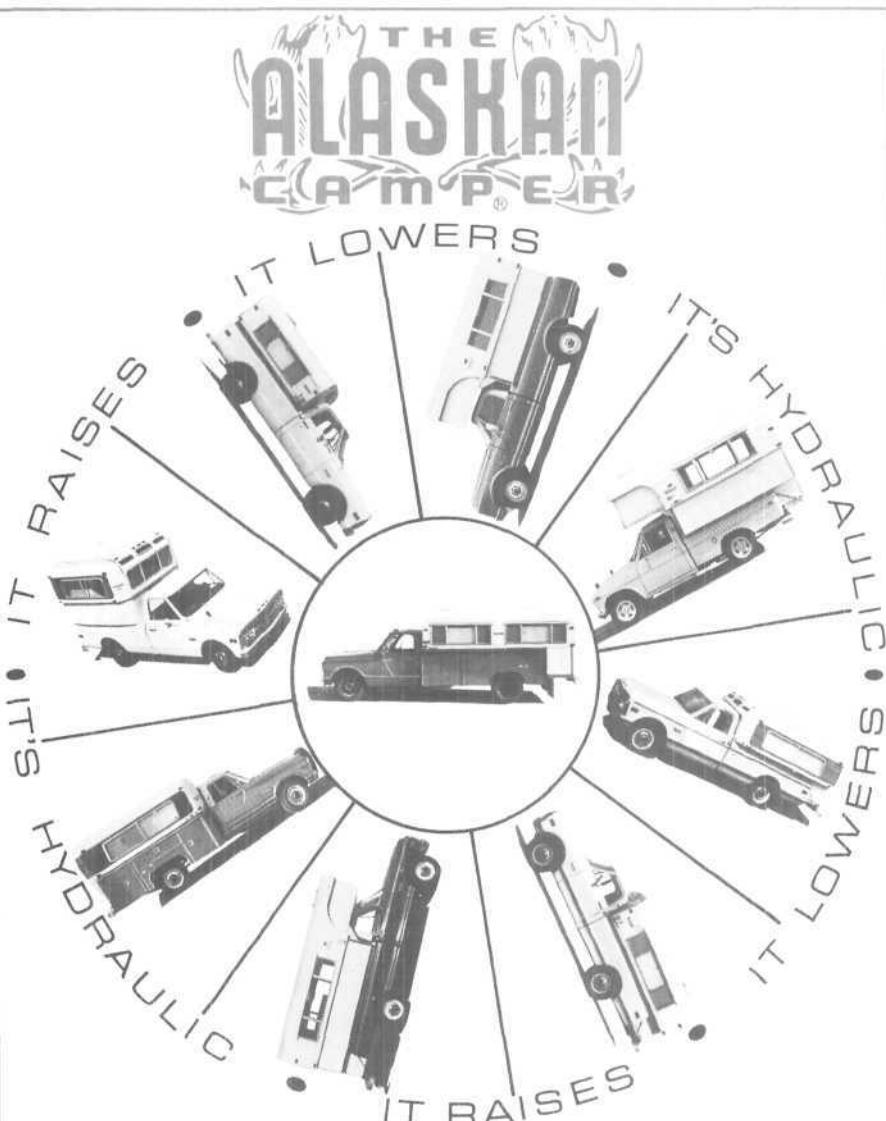
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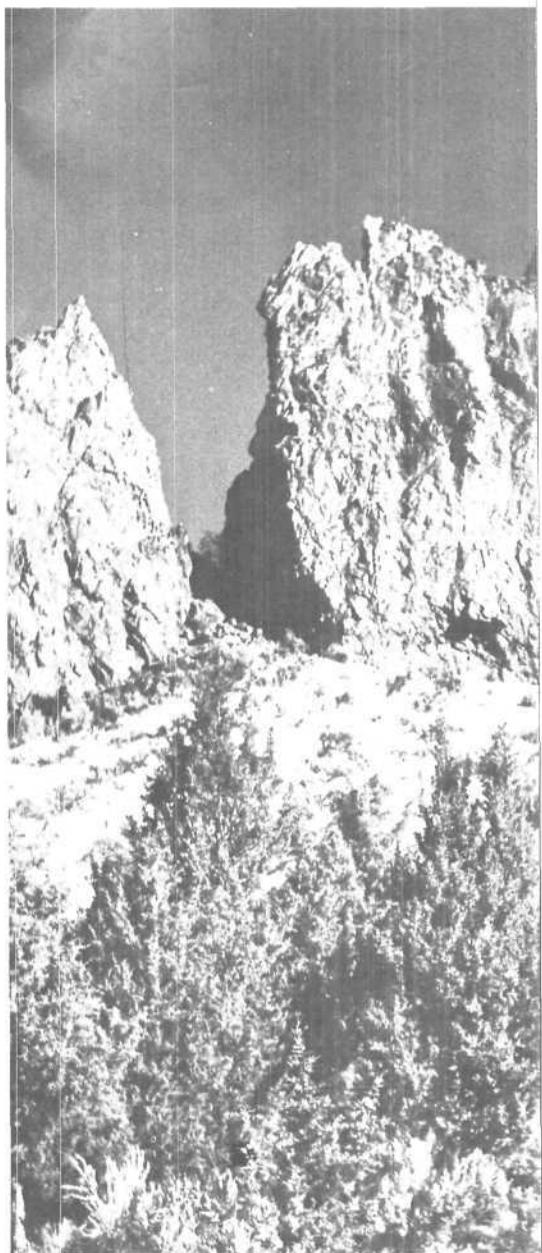
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by  
Mary Frances Strong

Photos by  
Jerry Strong



# PRINEVILLE POW WOW!

THE FOURTH of July is celebrated with a BANG at Prineville, Oregon. Firecrackers—no! Just rockhounds pounding away on boulders in search of gemstones. For the past three years, over 10,000 rock collectors, from throughout the United States, have headed for the "Agate Capital of the United States" to hunt rocks, swap specimens and enjoy the hobby in an atmosphere of real western hospitality.

This year the 4th Annual Western Rockhound Pow Wow will be held at the Fairgrounds from June 26th through July 4th. Mrs. Peggy Crawford, manager of the Prineville Chamber of Commerce, tells us it promises to be the most outstanding show yet.

Exhibits, demonstrations, dealers and tailgaters will be on hand. Camping is available on the fairgrounds and special entertainment will be provided the last two nights of the Pow Wow. Further information may be obtained by writing to: Prineville Chamber of Commerce, P. O. Box 546, Prineville, Oregon 97754.

All these activities are not what has made the Prineville Pow Wow popular and famous. It is their guided field trips to the gem claims owned by the Chamber, now totaling approximately 300.

Recognizing the popularity of rock collecting and the numerous deposits in the area around Prineville, Ivan Chapell, former Chamber of Commerce manager, pioneered the idea of a Pow Wow with

guided field trips. It was immediately successful and to preserve and protect the collecting areas the Chamber filed legal claims.

Each year, just prior to the Pow Wow, 150 claims are made ready. If necessary, they are bulldozed to provide good collecting for the many visitors. The other half of the claims are allowed to "rest." Roads

*Judy Elkins (opposite page) examines an agate specimen. The "coxcomb" of eroded volcanics (below) marks the turnoff to the Eagle Rock moss and dendritic agate collecting area. Lake Ochoco (below right), five miles east of Prineville, offers lakeside camping and fishing with nearby agate areas.*



siderable digging had been done and Judy told us some very good material had been found. Most of the claims lie in a beautiful mountain setting surrounded by towering pines — certainly a different and pleasant environment for those of us used to desert collecting.

One of the highlights of our trip to Prineville was not connected with rocks but with a train—the City of Prineville. In operation since 1918, it is the only city-owned railroad in the United States. Unlike so many of today's railroads, it more than pays its way. Railroad revenues have kept Prineville's taxes low and provided residents with many advantages, including a fine new swimming pool.

The line is approximately 25 miles long and two runs are made daily from Prineville to the junction north of Redman. Its main cargo is lumber products.

During the summer months, beginning June 15th this year, the Friday evening (7 p.m.) run allows passengers. There is no charge. Groups may make reservations; but there has always been enough room for individuals wishing to take the ride. I would suggest you be at the depot by 6:30 p.m.

The excursion season was over when we were in Prineville but Manager Nicolas invited us to ride the caboose with the crew. We found them most friendly and proud to tell us about "their railroad." The Conductor was Bob Pierce; Back-end

Brakeman, Ron Edgerly; Front-end Brakeman, Jim Queen and, ably handling the engine was Lawrence "Butch" Randall. It was a fun trip! I guess there is a little of the kid left in all of us.

Prineville is the oldest city in Central Oregon, dating back to 1868. It has played an important role in Central Oregon history as a trading center and it figured prominently in a war with the Snake Indians.

Mining and livestock were Prineville's first industries and settlers fought the bloody Sheep and Cattle War of the 1890s over grazing rights. Lumbering began in 1872 and is the major industry today. Generally, 8,000 cars of lumber are shipped yearly by the city-owned railroad.

Mining had its day in 1873, when gold was located on Scissors Creek. Later, Oregon's most famous quick-silver mine, The Silver King, was discovered on Trout Creek.

Recreationists will enjoy Ochoco Lake and Prineville Reservoir where camping and year-round fishing are available. The waters are heavily stocked, regularly, with eight-inch trout.

You will enjoy a visit to Prineville and the best way to get acquainted is to attend the Rockhound Pow Wow. You are sure to meet old friends, make new ones and have the time of your life celebrating our Nation's birthday in "Agate Land U.S.A."

□



to the sites are well-posted and maps are available at the Chamber office from May 15th through October. Guided field trips are conducted daily during the Pow Wow. There is no charge.

Jerry and I were in Prineville last October and, with Judy Elkins as our guide, we visited the Eagle Peak and Maury Mountains claims. It was evident that con-

# RAINBOW OBSIDIAN



Glenn Davis, Visalia, California, finds a nice specimen at the Royal Purple Mine.

by Mary Frances Strong  
Photography by Jerry Strong

THE WARNER Mountains rise from a volcanic tableland in the northeast corner of California, and form a rib-like ridge separating the Modoc Plateau from the Basin and Range Province. This type of topography is well-known for its diversified landscape of high, desert basins, forested mountain peaks and a myriad of streams and lakes in assorted sizes.

In recent years, it has not been the inspiring volcanic scenery which has brought thousands of new visitors to the Warner Mountains. Instead, excellent gem-cutting material in the form of iridescent obsidian has been the lure.

Several deposits of this unusual material, called "rainbow obsidian" by rock collectors, outcrop in the Warner Mountains between Davis Creek and the Oregon border. They are heavily visited during the summer months, as this is high country—5500 feet elevation. From October through April, snow is generally found on the ground, leaving the back roads muddy and impassable.

Over the years, one location, the Royal Purple Mine, has continued to produce top quality obsidian in various shades of purple, blue, green, gold and silver sheen and the coveted "rainbow type." Mining began 14 years ago and, though tons of material have been removed, the tremen-

dous deposits have barely been dented. It seems safe to say that future generations of rockhounds will also enjoy collecting and working this fine gem material.

The obsidian is obtained by the open-pit method of mining. A  $3\frac{1}{2}$  to  $4\frac{1}{2}$  pound pick, a shovel and gloves are the tools required. The size of the specimens range from one-quarter pound up to 500 pound boulders. However, the average size runs two to eight pounds. A fee of \$3.00 is charged and allows the collector 20 pounds of material. All over this weight is 15¢ a pound.

The Royal Purple Mine consists of eight claims and is owned by Ray and Sue Griffith of Quartzsite, Arizona. Jack and Marie Williams will be managing the mine during the 1972 season. Any inquiries may be directed to: Ray Griffith, P.O. Box 543, Quartzsite, Arizona 85346.

Fifteen years ago, obsidian hadn't as yet become a popular cutting material. The snowflake type (Utah) was being used but most of the obsidian available was black, smoky-clear or with layered and cloud patterns. Its use was limited.

The Griffiths were long-time and avid rock collectors when in 1957, on a vacation trip through Utah, they were shown a specimen of rainbow obsidian. The beauty of the material intrigued Ray and his efforts to learn more about it boiled down to "it comes from Northern California."

As their vacation progressed, Ray kept inquiring about the obsidian wherever they stopped. It was in a most unlikely place, the California Inspection Station north of Alturas, that his inquiries at last bore fruit. He was told the material came from the Warner Mountains northeast of Davis Creek. Ray spent the next six days prospecting the area and located what was to become the Royal Purple Mine.

The spring of 1958 found the Griffiths busy developing their obsidian deposit. It was opened to collectors that year and when outstanding specimens began to appear in displays its popularity rapidly began to rise.

"Mrs. Olive Colhour, well-known lapidary and gem carver of Seattle, Washington, spent many of her vacations here during the mine's early days," Ray told me.



*Three beautiful examples of iridescent and rainbow obsidian which were collected at the Royal Purple Mine in California's Warner Mountains.*



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"She was very instrumental in introducing rainbow obsidian to the hobbyist."

The Griffiths personally operated the mine for many years. "We showed and explained how to chip for color, how to sort and how to dig. We wanted every collector visiting our mine to be satisfied with what he had found. High-grading was not only permitted, it was encouraged," Ray continued. "Managers Jack and Marie Williams will carry on this same policy."

Obsidian is "nature's glass." Its resemblance to the man-made material and distinctive conchoidal (shell-like) fracture make it easily identifiable. It is not a mineral but an igneous rock (lava) which cooled so rapidly the constituent compounds did not have enough time to group into minerals. It is quite common throughout the West where great periods of volcanism occurred during the Tertiary Period.

The highly prized, iridescent (rainbow) obsidian is not common. Specimens show well-developed layering. It is from the numerous minute inclusions along these layers which refracts the light to give the colorful rainbow effect.

"Cutting and polishing rainbow obsidi-



There are good, level campsites among the pine trees in the Warner Mountains. May 15 through September 15 is ideal weather.

scratches are removed before proceeding to the next step.

- Step 1. 100 grit wheel for shaping.
- Step 2. 200 grit silicon sanding cloth.
- Step 3. 400 grit silicon sanding cloth.
- Step 4. 600 grit silicon sanding cloth.
- Step 5. Tin oxide for final polish (or use your favorite polishing agent).

Step 6. A mixture of tin oxide and chrome oxide as a final buffing will give a deep "gloss" to the cabochon.

The season is now underway at the Royal Purple Obsidian Mine. The turnoff, eleven miles north of Davis Creek and seven miles south of New Pine Creek, is well marked. The road is good and large trailers can be taken into mine headquarters or Lassen Creek Campground (unimproved). Camping is free.

You will find cool, clear spring water to drink, tall pines to shelter your campsite and beautiful gem material to collect. The Royal Purple Mine is certainly a place where rockhounds may enjoy a "royal" summer vacation trip. □

an is quite simple if a few important steps are followed," Ray explained. "Two very interesting effects can be obtained when cutting rough obsidian. (1) Saw parallel to the bands and the finished cabochon will have a bull's eye effect. (2) Saw three to seven degrees off of the banding and you will have a 'rainbow' from top to bottom of the cabochon."

"When grinding and sanding obsidian," Ray continued, "the usual method is reversed. Always grind from the center out. Never begin grinding from the sharp, outer edge toward the center, as small chips will be picked up on your wheel and sanding drums. These minute chips will consistently scratch your stone leaving you with an imperfectly finished cabochon."

"Always use new sanding cloths when working obsidian," Ray advised. "It is best to sand a scrap of obsidian until the sharpest grits have been worn down somewhat, before sanding your cabochon."

Ray uses the following method for polishing obsidian and the results are beautiful.

Use a very light pressure through all steps and have ample water on your grinding wheel and sanding drums. Be sure all

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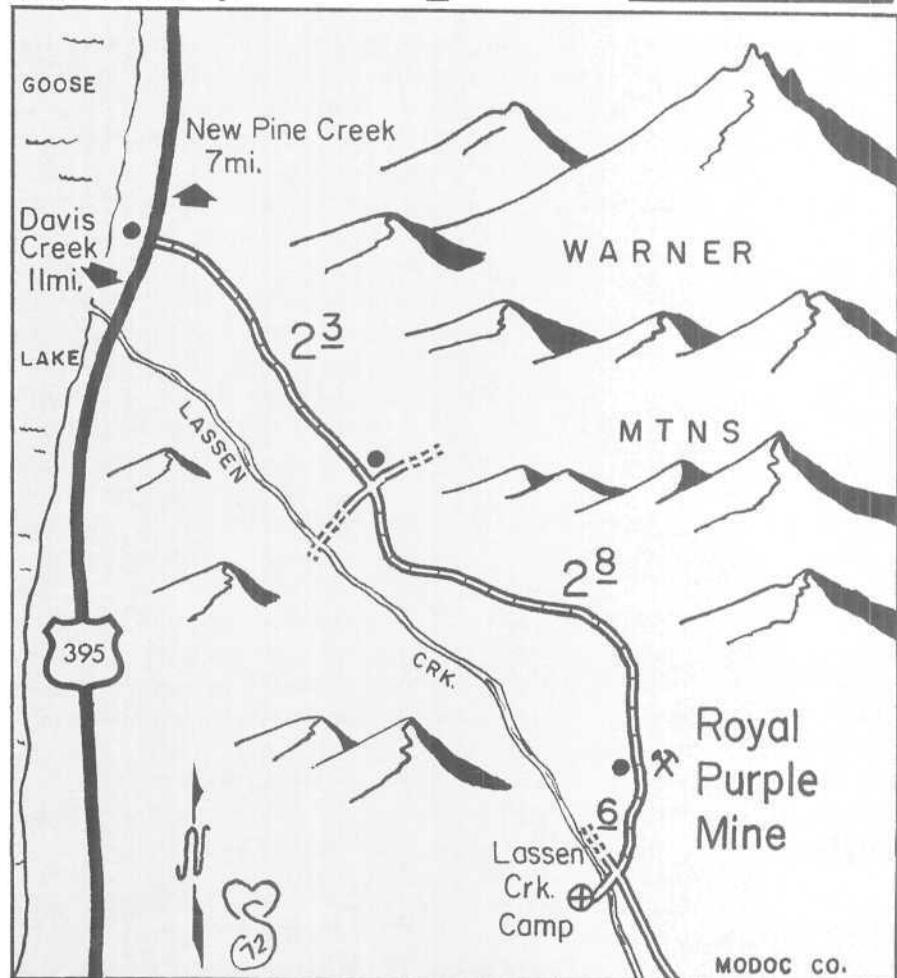
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# MISSION

Two years after the founding of San Antonio de Padua by the Franciscans in 1771, there could be seen on the bank overlooking the creek known as San Miguel, a modest church, a house for the Padres, a makeshift workshop, and several huts of timber and adobe. Near this small cluster of buildings, 163 Indians lived in crude huts framed with saplings and covered with rushes.

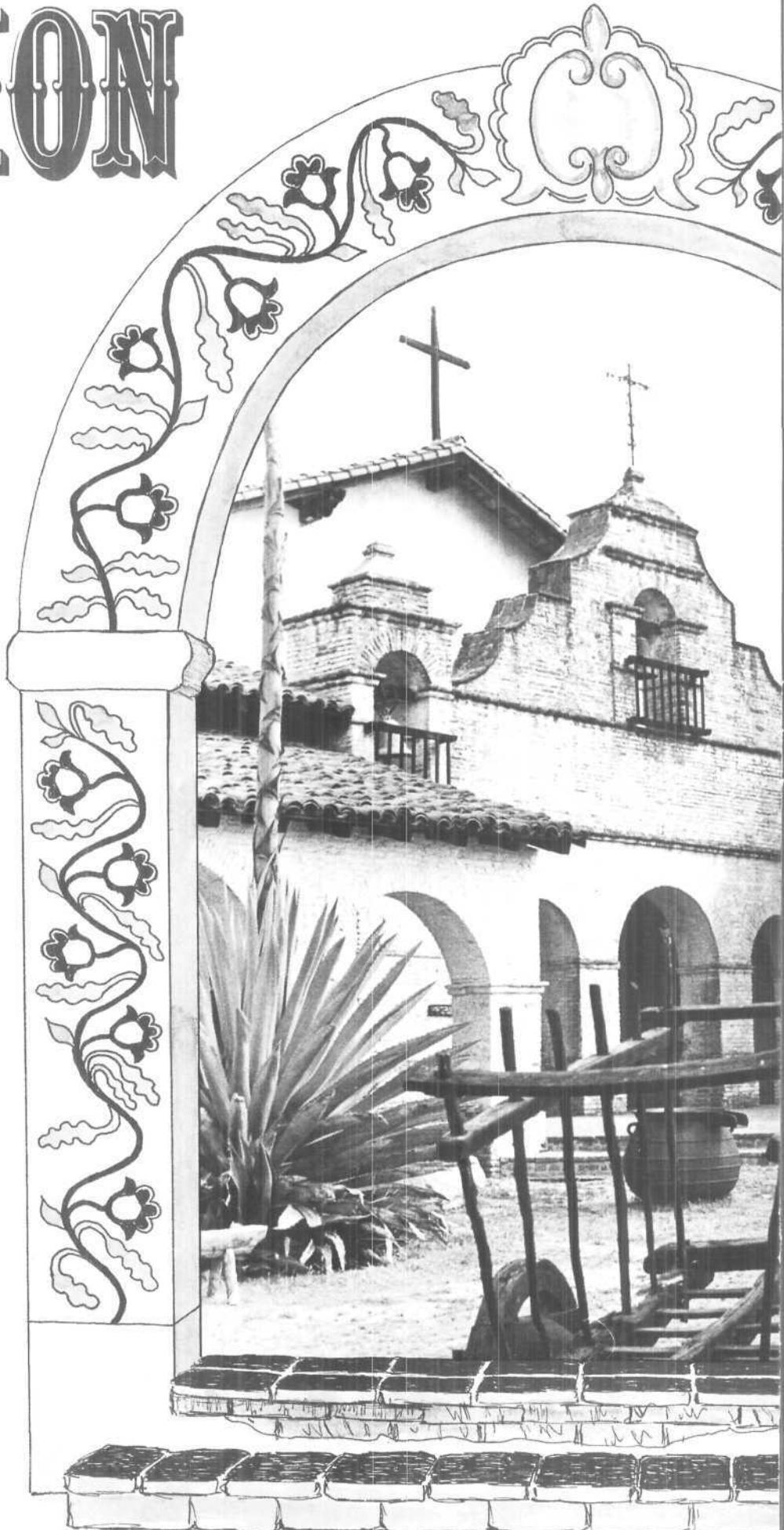
In the oak-shaded valley were a few fertile fields of grain, and beyond were the forests of the Santa Lucia Mountains. From this "sluice of mixed material," San Antonio developed into one of the larger and finer missions of its day, with a working force of more than 1,000 natives.

Today, San Antonio represents one of the best examples of a restored mission in California. Located in its original setting, the pastoral countryside surrounding San Antonio reflects the peace and unhurried tempo of early days in Northern California. It is reached by taking Route G14 from U.S. 101 at King City.

San Antonio at once appeals to one as interesting, and yet how seldom do we think of its building and realize the labor of both mind and body required to complete the task?

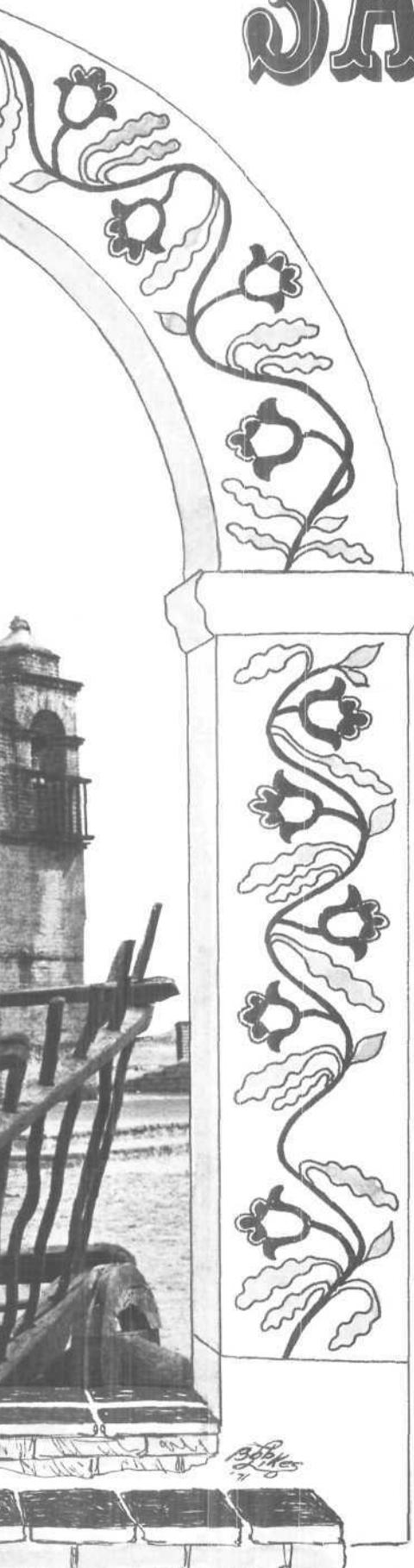
Load after load of heavy stones from the river bed were needed to form foundations strong enough to support walls almost six feet in thickness. The bricks used in these walls were made of adobe mixed with straw about two inches in length. This mixture was placed into forms and allowed to set for three days before the bricks were put on edge for their final hardening.

Large logs had to be obtained from



# SAN ANTONIO DE PADUA

by Robert C. Likes



the mountain forests and, by a process of dragging and skidding, were brought to the San Antonio River where they were floated down to the Mission during the season of high water. After the surfaces were hand-hewn, the long timbers were finally ready for various uses in construction of the buildings. The enormous number of tiles used in finishing the roofs were made of clay and cured in kilns that were built east of the Mission.

San Antonio has the feature recognized as typical of the larger missions. The corridor of portals at the right of the church is 227 feet in length and built with an exactness that made each arch a duplicate of the other. This front wing of the quadrangle formed by the church and remaining two wings was the Padres quarters, but now is used to display San Antonio's memories of the past.

Inside is an outstanding exhibit and a remarkable collection of mission relics, Spanish art and weaving and Indian artifacts. Here also is a scale model of the church and adjacent buildings, and miniature working models of the grist mill and the old well with its endless chain of buckets.

The workshops, granary and school were housed in the remaining two wings. The great quadrangle of San Antonio was a trade school of large proportions, where Indians were taught more than 50 different skills. The buildings forming this quadrangle, if set end to end, would have reached almost one mile in length.

Construction of the present church, which had been planned for some time, began in 1810 under the supervision of Padres Cabot and Sancho. A striking feature is the facade of burnt brick with

arched openings for the bells. Between the facade and nave of the church is the vaulted ceiling. The arch extends almost from the floor to ceiling in a continuous half-circle, and is made entirely of burnt brick. The floor of the church is constructed of hard mexcla plaster put down over carefully-laid cobblestone. The type and pitch of the wooden-ceilinged sanctuary is also unique among missions.

San Antonio had a remarkable irrigation system pioneered by Padre Sitjar, who served the Mission from its founding in 1771, until his death in 1808. One of the most efficient men of the Mission Days, Sitjar knew that if the Mission was to expand as a settlement, the Indians must not only be better fed, but must be given employment in the fields and vineyards.

To accomplish this, there must be water in abundance during the entire year through. The Padre tapped the San Antonio River, three miles above the Mission. Three diverting dams were built diagonally across the current of the stream for the purpose of directing water into a ditch carved in the side of the canyon. The water was transported by means of masonry conduits and open flumes to the reservoirs, where it was distributed to fields and orchards. In 1806, a water-powered grist mill was built. The mill house was two-storied, the upper portion being above ground and housing the millstone and storeroom, while the lower section housed the water wheel. This was the first mill in California to have a horizontal power wheel.

Lou G. Hare, County Surveyor of Monterey, in checking the system found that the grades established by the Padres, even



*This horizontal water wheel (above) was the only one in California. Water propelled the wheel, driving the shaft that turned the mill stone on the floor above.*

around rocky bluffs, through sandy stretches, and across gulches and creeks, could not be improved with modern surveying equipment. Not only was the mechanical and constructive work of the system of a high order, but the engineering as well. The reservoir, millrace, and stone masonry of the mill remain intact. The water wheel and mill house have been restored.

By 1809, the Indian families were living in adobe and tile houses. Twenty-five were finished that year, and to these a greater number was later added. These quarters were located outside and to the southeast of the Mission compound. The Indians were encouraged to plant gardens of their own, and were allowed to dispose of the produce as they chose.

The San Antonio Mission flourished. The valley was alive with Indians. Their houses, fields and aqueducts gave meaning to the land and the hills echoed the sounds of their progress. A surplus of crops were being raised yearly, and miles from the Mission ranches were being established to support the ever-increasing herds. The Indians had reached a state of development which gave them positions of responsibility, and this was encouraging to the Fathers.

Doubtless difficulties confronted the priests in the management of a community of such numbers, but none as grave as the unexpected paradox that began to develop at a time when the plans for the Mission were so near reality. It is stated in the records of 1810 to 1820, Padres

Cabot and Sancho were obliged to bury more Indians than they baptized. Their number had decreased from 1,124 to 878, and the Fathers knew of no way to meet the problem.

Sickness continued to devastate the ranks of the natives, and by 1830, their population was only 681. Padre Sancho, with whom Cabot had served since their arrival at San Antonio in 1804, died in February, 1830, and was buried in the church beside the remains of Father Sitjar. These two Padres represented 59 consecutive years of service at the Mission.

In 1834, an agent working in the cause of secularization, explained to the Indians the proposal that put their control in the hands of the Mexican authorities. This new organization that was introduced into their community was entirely foreign to their comprehension, and the attitude of the natives was unsatisfactory toward the secular government. It would seem they preferred control by the Padres rather than "freedom" under the jurisdiction of the Mexican representatives.



Father Cabot retired to the San Fernando Mission in 1834, where he died two years later. He was succeeded by Padre Gutierrez who came to San Antonio during a period extremely trying to the Mission. The food upon which the natives had existed was now being diverted to the civil and military establishment, and was no longer available to meet their needs. By 1836, two-thirds of the Indians were starving and in quest of food not to be found at the Mission. In 1839, the population was given as 270, and in 1840, Padre Gutierrez wrote, "the Mission is advancing every day toward complete destruction." These natives, so easily attracted to a life of civilization, just as easily slipped away, and as painful as it must have been to the Padres, the Mission, in all its dignity and beauty, stood forth merely as a final monument to a disappearing race.

Mexico realized it was not the time to prolong an unfavorable experiment and attempted to swing back to safer channels. In 1843, after almost ten years of Mission rape, the government delivered the control of all the Missions back



*Corridor of portals (above) is 227 feet long with each portal exactly alike. Indians used the forge (left) to produce metal pieces needed in construction of the mission.*



to the Franciscan Padres with hopes of salvaging the system. One year later, Padre Gutierrez performed the 4,651st baptism since the founding of San Antonio. It was also to be the last.

Padre Ambris was in charge of the Mission from 1846 to 1882, at which time there was reported only about 35 families living there. After his death, the church buildings were left to themselves, and at the turn of the century, San Antonio was desolate and almost in complete ruin. The Mission was saved from utter destruction only by the timely action of the California Historic Landmarks League who, in 1903, had raised funds to put a temporary roof over the church and save it from complete ruin.

It was not until 1949 that funds were

available to restore the Mission. The Hearst Foundation allotted \$50,000 to begin the project. The restoration was carried out on completely authentic lines from the many photographs that were taken before the old Mission fell to ruin. In hand excavation, many relics were discovered, all of which are now displayed in the front wing of the Mission.

The devotion of the original Indian inhabitants and early settlers of this vicinity still lingers with their descendants. Pilgrimages and individuals come to the Mission to offer their prayers of petition and thanksgiving. Once again the Mission bells ring out, and once again San Antonio de Padua's simplicity and charm captivate visitors to the Valley of the Oaks.

# Across Utah's white Rim

by Enid C. Howard

*Photos by the author*

THE WHITE RIM is something else! It occurs as a sort of orphan in the geological time clock, because it was deposited during a period of unconformity and an erosion interval, between the Paleozoic and Mesozoic Eras about 250 million years ago. It doesn't seem to relate to other formations in the drainage basins of the Colorado and Green Rivers in southeastern Utah.

It appears only in the erosional patterns within an area roughly southwest of Moab in the triangle between the confluence of the two rivers, west of the Colorado in the Land of Standing Rocks and The Maze, south towards Hite, Utah, where it pinches out and disappears.

The Rim is a hard white sandstone deposit that varies in thickness, sandwiched between two layers of softer, extremely dark red siltstones, the Moenkopi above, the Organ Cutler below. It erodes slowly, resulting in broad benches of the underlying Organ Cutler formation capped by the White Rim.

White Rim country is a part of Canyonlands National Park and is considered the median zone between Grand View



Kent Frost stands on one of the giant natural bridges which are found along the White Rim, now part of Canyonlands National Park.

*The White Rim  
is composed of  
hard, white  
sandstone which  
varies in thickness  
and which was formed  
approximately 25  
million years ago.*



Point at 6,313 feet elevation, and the Colorado River at 4,000 feet. The Rim elevation varies around 5,166 feet.

Exploring the White Rim is possible via the one primitive road into the area, and can be accomplished in two days or more, depending on how much time the visitor wishes to spend in this most unusual section of the park. Total miles logged were 120. Not too long, but consider this is all back country driving, with some very steep grades. For safety use only four-wheel-drive vehicles.

The visitor should bear in mind that the Rim is part of a National Park, and all regulations apply. It is suggested that a stop be made at Park headquarters in Moab, 68 South Main, to purchase, at nominal cost, the large new Canyonlands Park and Vicinity Map that details the White Rim area. It will make jeeping the Rim more rewarding to be aware of what one is observing, and the location of outstanding features of the Rim benches.

Another suggestion, carry a gasoline stove, as firewood is scarce and the Park Service takes a dim view of chopping at the few trees that are there. Carry enough

water for the trip as none is available. Also, carry out your litter items.

Access to the Rim can be through either the Shafer Trail or the Potash Mine road along the Colorado and these are indicated on the map. The river route is the most scenic and interesting as Indian petroglyphs, ruins and the Jughandle Arch on the cliffs along the river, combined with the reflected canyon walls in the water, create many photographic moods. Two arches, Corona and Bow Tie, are a short hike from the road, with signs pointing the direction.

Below Dead Horse Point the first signs of the White Rim appear high on the talus slope as a fractured line of white deposit, but gradually the road will work out to the top of the formation and you will be driving on top of it much of the trip. The Rim varies in thickness from ten feet to as much as three to five hundred feet.

At Shafer Trail junction a sign will direct. Three miles beyond, an indistinct jeep road turns left to what one of the local tour operators has called the Walking Rocks. We hasten to add that visitors

walk to them, they do not of themselves move an inch. However, this provides an interesting example of the White Rim sandstone. Fractures occur in cross-hatched lines, and as erosion takes place within the fractures the crevasses widen, and at some points are six feet wide and completely separate from the parent formation.

Grand View Point along with Junction Butte, divides the east rim from the west rim. East tributaries drain to the Colorado, west rim canyons into the Green. As the jeep trail heads each successive tributary on the east side, the Colorado appears below now and then to arouse the interest of the "explorers at heart." One becomes increasingly aware that nothing in this land comes in small sizes. Every element assumes gigantic proportions—large broken rocks tossed carelessly everywhere, canyons are deep, the benches of the Rim and the lower levels are so wide they almost become prairies, cliffs soar, or plunge deeply, colors are not delicate. Ox-blood red, they, too, crash into the picture and assert their power to impress.

The two dominant features are the



*Spectacular red sandstone formations loom skyward (above) along the road to the Rim. Monument Basin pinnacles (left), spires and walls are 300 feet below the Rim.*

glowing, weather-varnished, vertically fractured Wingate escarpments of Grand View Point, and the White Rim as it thickens in depth and exhibits the characteristics that produce sheer walls, arches and water caves. Musselman Arch is a good example of erosion into the Organ Cutler formation which carried away the softer siltstone beneath the span, leaving the resistant white caprock intact.

Another interesting feature in this area, located on the map, is Washer Woman Arch in a broken segment of the high cliffs. This amusing figure shows the poor woman bent over her wash tub, forever ordained to keep at her work, until the remnants of the Wingate walls topple. Perhaps a thousands years hence.

Monument Basin appears to be the ul-

timate in viewing the results of the forces that have created this distinctively different world of the rim country. The Basin is about three to five hundred feet below the Rim, and contains an assortment of the crossbedded Organ Rock spires, pinnacles, grouped monuments, arches or thin walls, some capped by their portion of the white sandstone, are so slender it is difficult to understand how they ever remain upright.

Below Junction Butte at the south apex unfolds what has to be the most dramatic overlook of the trip. Turn a complete circle, there is not a blank space anywhere. Look south—a panorama of canyons, benches, shelves, talus, waterways, all littered with the debris of disintegration as the land falls away to the confluence of the two great rivers. Turn around and

look north. There, Junction Butte, behind that Grand View Point lift majestically to the mesas. Look west—the Orange Cliffs create a backdrop for the Standing Rocks and Maze country. Look east at the Hatch Point Ridge, the Indian Creek cliffs and the Needles of Canyonlands Park across the river. The full circle scene overpowers one with its magnitude.

From this point on, the road will climb over the divide and lead you into the Green River section of the Rim. The overlook at Turks Head bend gives you a first look at the river bottoms that are considerably wider than those of the Colorado. They sport a collection of unusual names—Tuxedo Bottom, Queen Anne Bottom, Valentine Bottom, Hardscrabble Bottom, Saddlehorse Bottom and, at Fort Bottom,



*Turks Head spire along the Green River is one of the famous landmarks. The White Rim parallels the Colorado and Green Rivers for a hundred miles.*

the name comes from an Indian Fort ruin perched on top of a cliff circled by the river.

Ten miles beyond Turks Head bend if you look south across the Green, you will see on the skyline the formations that Major John Wesley Powell named, The Butte of the Cross. Seen in silhouette, they resemble a very thick sturdy cross. Another interesting place is at Upheaval Bottoms, (most of these name places are located on the map) where one can look eastward up Upheaval Canyon to catch a glimpse of that great geological oddity, Upheaval Dome, a gargantuan salt plug forcing its way through the surface of the surrounding land. It is possible to hike to the Dome up the canyon, about five miles away.



A word of caution about swimming in the Green River; don't do it, and don't allow children to wade the banks. The river is treacherous, the sand banks drop off suddenly and cave in. Even the sand bars are not safe, for they might be nothing but quicksand, and the current is swifter than it appears, with dangerous undercurrents.

From Upheaval Canyon the road meanders along the river banks, but the White Rim pulls a fast switch by suddenly disappearing under the river. The road elevation has been slowly increasing into the formations of the Moenkopi, the red siltstone directly above the Rim, the Shinarump, where uranium deposits are sometimes found, and the Chinle, that pastel lavender-grey band that is seen just below

or in the Wingate cliff talus. When you reach Horsethief Bottoms the road turns right to climb a dizzy succession of switchbacks right up the face of the cliff. It is a good surface road and quite safe, even if it does cause one to feel as if they should lean towards the wall. Horsethief Trail skims off across the mesa and joins the road to Grand View Point.

A fitting finish to this journey around the White Rim would be to drive out to Grand View Point and contemplate the natural wonder and majesty of this portion of our fascinating world. Man must create within his time, but Nature, the master, has spread billions of years of creation before us to study, admire and appreciate. One cannot help but feel very humble. □

# PARADISE FOR LUNKERS

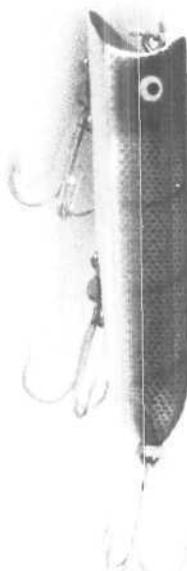
## PART TWO

by Stan Jones

*Photos by the author*

**W**HEN UNSEASONABLY warm weather prevailed at Lake Powell for a month this spring, trout anglers soon discovered they could stand along the shores and cast baited hooks into the cold, shallow waters with great success. One shore fisherman set a new lake record when he landed an eleven pound, two ounce hard-fighting rainbow!

*One of the author's favorite plugs for bass is this "scaly green-red-head" Heddon Lucky 13 lure. Green seems to work better than red and white plugs in Lake Powell.*



This is just another example of why, as I stated in my article last month, I believe Lake Powell is one of the most exciting "fishin' holes" in the United States. In this article we will go for rainbow trout and largemouth bass.

### RAINBOW TROUT

Initially stocked in great numbers by air-drops, rainbow trout become more plentiful in Lake Powell—by many thousands—each year. True rainbow trout, not brook or lake ("Mackinaw") trout, Powell's solid, pink-striped rainbows come in all sizes. They keep to the clear, deep waters and are most frequently caught in or near the five-hundred-foot depths back of Glen Canyon Dam. However, big rainbows have been landed in many other areas as far uplake as Hall's Crossing.

Night fishing for rainbows has become popular at Powell during hot summer months. Anglers tie up to the dam's protective log boom, light a lantern and relax during the cooler hours. All the usual and unusual trout baits are tried, from marshmallows, cheese bits and corn kernels to worms, shrimp, salmon eggs and trout roe. Limits of smaller trout are landed in this manner, night after night, by even the laziest fishermen.

For the big trout it's troll, troll, troll. From the dam a boat can proceed slowly along either shore into Wahweap or

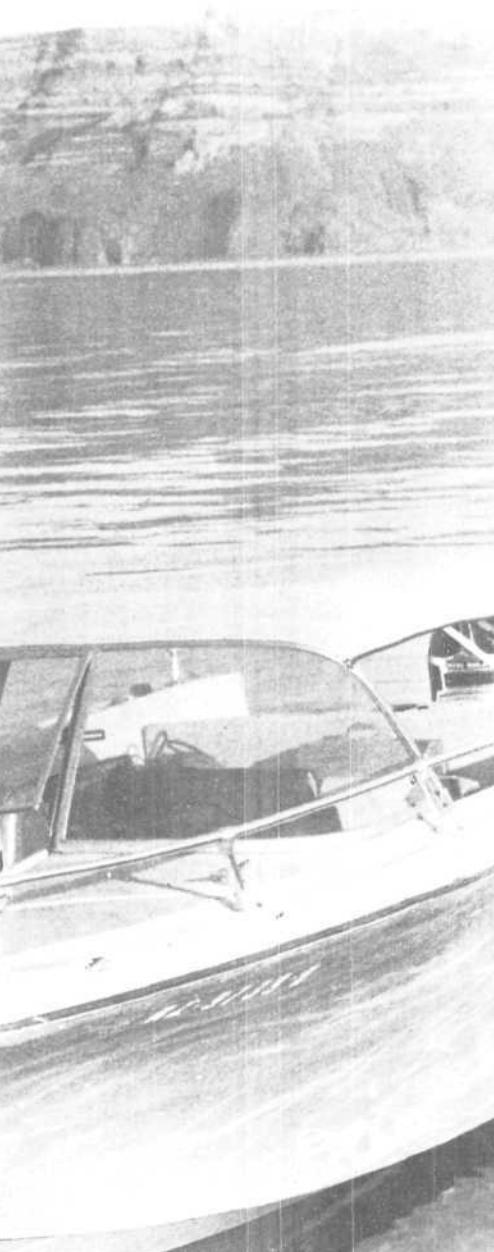


Warm Creek bays, towing spinners or Davis-lure "hardware" strings affixed to the line above a flatfish, bomber, water-dog-bomber or other similar skittering lure. More than once I've hooked a trout and a bass on the same lure within minutes while trolling in this manner. An occasional "school" of trout will usually produce a fish each time a trolled lure is towed over the mass.

### LARGEMOUTH BASS

Nothing is more difficult to define than "How To Fish For Largemouth Bass." Yet, it may be that the puzzling, often downright aggravating nature of the species is exactly what makes it the most sought-after game in Lake Powell Country. And, again, the "exotic" Powell lakescape tends to add to the dilemma of uncertainty surrounding this superb sporting fish.

Bass fingerlings were originally planted by airplane in Lake Powell seven years ago. They have flourished beyond all ex-



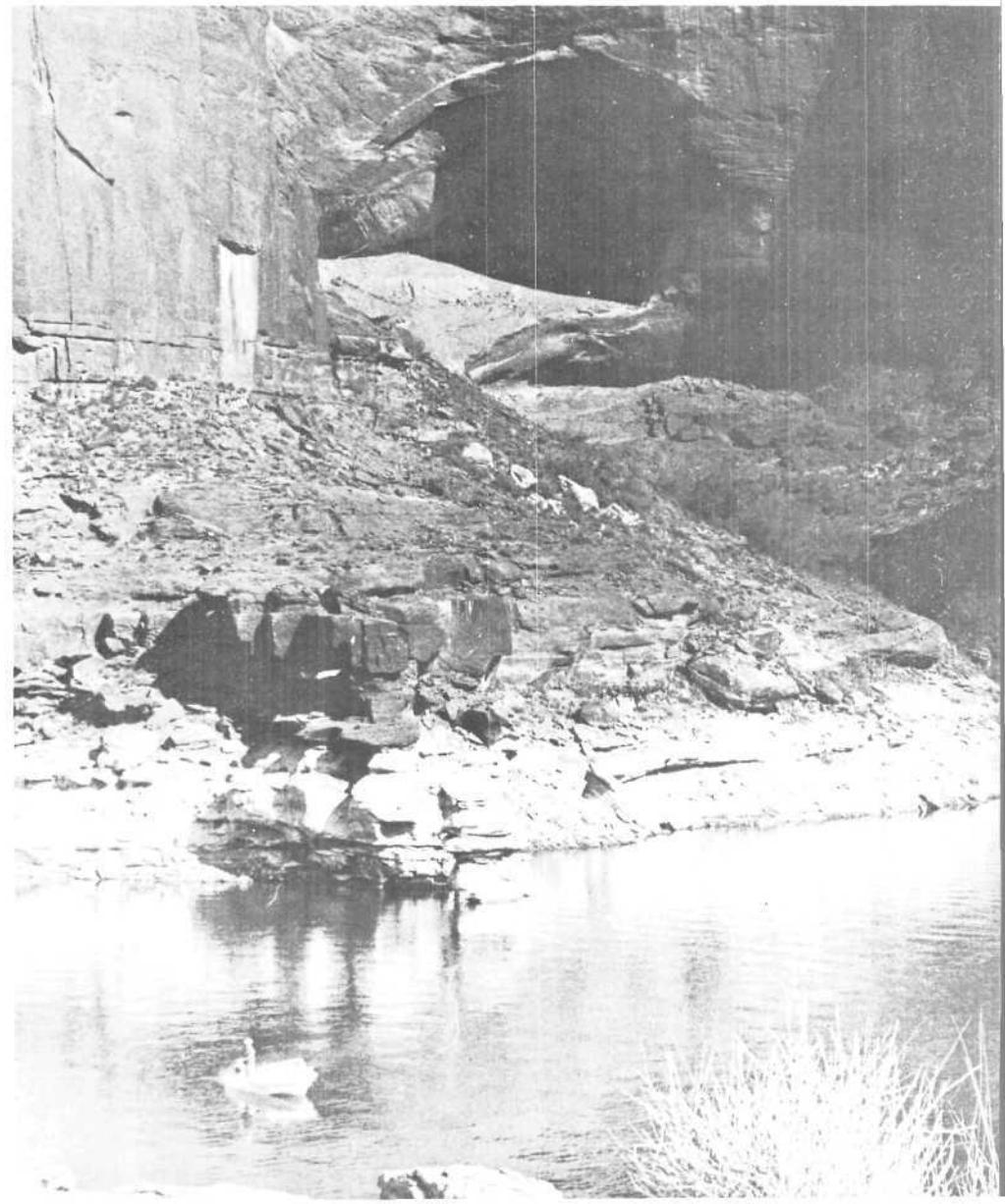
the mud of warm, shallow lakes, Powell's bass inhabit clean, cold water. Each spring as I have reexplored the big lake to update my "Stan Jones' Map" I have come upon seemingly ideal bass slews created by rising, roiled waters that carry flotsam into the depths of long, winding canyons. Often I've found anglers in such places cursing because hours of plugging or "waterdoggin'" have produced no fish. At the risk of seeming to be a smart-aleck local I've stopped to explain some of my experiences with Lake Powell bass, gently suggesting that such slews are not prolific fishin' holes.

Of course, there are dozens of ways to fish for bass; every angler has his or her favorite. Powell may require methods that differ from the norm. One can always troll along the cliffs or in the canyons. But surface-plugging and waterdoggin' are more lucrative and more fun; and they usually produce the largest lunkers.

I am an avid surface-plugger. And when I go a-pluggin' I use only floating lures; fish only on top of the water. I seek quiet, hidden glens, usually marked by brush in the water. My friend, Red Barrett, a local guide, prefers waterdog fishing, and he sticks to more open water where rocky shoals and sheer rock walls dominate the scene.

Red is happiest when he drags the depths with 'dogs and brings home a long string of fat bass that will average from three to five pounds in weight. My biggest thrill comes when I lure one or two six or seven-pounders to the surface with fingertip action imparted to a ponderous plug.

If you like my way of fishing you'll be glad to know that, normally, the upper reaches of many Powell canyons and coves contain some of the most perfect bass country a plugger could hope to see. The water is clear and blue, filled with all manner of naked brush. Early in the morn-



pectations and today bass, large and small, can be found throughout all of the lake's vast area. Powell's latest record-breaking bass weighed ten pounds, two ounces. But I full expect that record to be shattered. After all, there are lunkers in Lake Powell that are seven years old. They have at their disposal just about all the threadfish shad they can eat. And they can latch onto an occasional bluegill or crappie, too.

There is no greater proof than in the eating. The clean, white, fat meat of the Powell largemouth is beyond compare. We bake 'em whole (in foil), simply lift the skin to fork out the meat in sweet, tantalizing chunks.

Unlike lazy old lunkers that belly into

*Expert fisherman "Red" Barrett (above) holds a string of bass. Bass and trout are just waiting to be caught (right) in the many scenic coves of Lake Powell.*



Canyon Tours'  
"cowboy skipper" Art Greene sez:  
*"Howdy, partner! Come try our*

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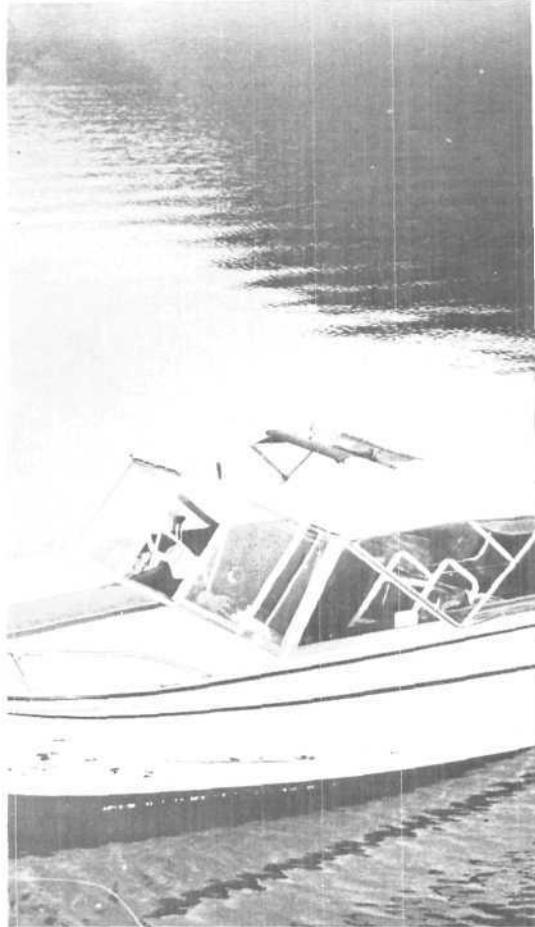
*Although game fish can be caught from  
the shore, most anglers use boats to go  
after the big ones.*

ing and late in the afternoon the surface may be without a ripple. There may not be another boat for miles. It's you and God and Mr. Bass—all alone together.

After forty years of fishing for bass I remain old-fashioned enough to believe that QUIET is absolutely necessary. Many anglers dispute this, and I have one friend who actually races his boat around at top speed in every area he intends to fish. And although I own an old-fashioned tackle box and dozens of plugs, old and new, I prefer the old-fashioned red-headed, yellow and black "Lucky 13", a three-ganged floater that is three and a half inches long. I call this plug my "broom handle" and I tie it directly to twelve-pound-test premium mono line using no leader or swivel of any kind. This allows the plug to float in a true horizontal position and to react instantly to any action of my fingers or wrist.

I float or paddle to a position approximately 75 feet from any brush or inundated tree trunk, then cast as close to the brush or tree as I safely can. Before my plug hits the water my line is running between my fingers, allowing me to control every move of the lure, even to how it settles on the surface. Immediately, as though part of the drop, itself, I begin to twitch the end of my rod so that the plug will jerk back and forth, and up and down like a creature in the throes of a frenzy. If Mr. Bass is lying in wait he will usually charge the plug within seconds of its landing.

When the fish takes the plug he'll invariably head for the deep brush—fast!



The big trick is to set the hook and keep him from fouling—at the same instant. Here, again, Powell bass fishing can be different. The moment the bass breaks water I raise my rod high, snap back the tip and wind in. If successful, such moves set the hook, stop the turn of the fish, and create a taut line that prevents my quarry from reaching the brush. It's a gamble. But the losing alternative is to give the bass his head and wait a few seconds to set the hook—as one would do on many other lakes.

Lake Powells' brush is composed of large and small cottonwood trees, native bamboo, willows, sage thickets and other types of verdure that, once drowned and water-logged, become strong and supple. It is all but impossible to break even the smallest branch or twig. And once Mr. Bass spins around the shrubbery you can kiss him and your line goodbye.

Bringing a bass to the net at Lake Powell is another activity that can be different from the same maneuver at other lakes. For some mysterious reason Powell bass seem overly boat shy. Once you have fought and won your battle with the bronzeback and you have him in sight with net at the ready you are apt to relax a bit and begin to swell with pride.

Forget it! Wait until you have him in the boat, buddy. No matter how docile he

## FISH! FISH! FISH!

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rod that will allow his bait to be thrown smoothly in a high arc without fear that whiplash will tear the waterdog from the hook. He ties the hook directly to the line, using no leader or swivel that might allow free rotation of the bait during the cast. For small 'dogs, Red ties on a number four or six hook. For larger 'dogs he selects a number one.

Hook the waterdog in the mouth, coming up from under the lower jaw. Be careful to keep the hook in such a position that a wriggle will not cause the 'dog to double-hook itself by piercing another part

of its body. About 18 to 20 inches from the hook carefully squeeze a split-shot lead weight directly onto the line. Inspect this weight periodically to ensure that it has not slipped or cut into the line.

Gracefully cast the 'dog toward the shoal, let the lead weight take it to the bottom, then wait a moment or two while the 'dog realizes that its activity is limited to circling the weight. If Mr. Bass doesn't gobble the 'dog on its initial spin around the split-shot, begin to slowly retrieve the 'dog by consistently pulling, not jerking, the line.



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may seem after the fight, Mr. Bass has one big ounce of poop reserved for that horrible instant when he sights the bilge of your boat. If you're ready for it you can thwart him by letting him run out a little line and perhaps go a bit deeper than you had allowed on the way in; then, slowly, reel him in again.

If my method of fishing for Lake Powell bass sounds like work, it is. After evaluating the complaints of hundreds of anglers who have come to Lake Powell expecting fish to jump into their boats, I find the biggest gripes are the ones who drop a line overboard and expect it to work by itself. Successful bass fishing is a physically demanding sport. Red Barrett agrees. And he has undoubtedly taken more bass from Lake Powell's waters than any other man.

Red specializes in the use of waterdogs (a live salamander, cultivated and sold locally as legal bait). He likes to ease into a region where there is a shallow gravel-covered-shoal, cut his engine and quietly—very quietly—drift toward the shoal until casting distance. Big lunkers often lie on those shoals, especially at nesting time in the spring.

Since the shoals dip gradually into the water, Red can try his luck at varying elevations. He prefers depths of eight to ten feet. He uses a spinning reel and a long

After a day or two of this kind of fishing you'll learn, as Red and countless other waterdog users have, the difference between the feel of the drag of the weight over stones, the wriggle of the waterdog, and the nudge or final lunge of the bass. Once the fish has taken your 'dog and you know he's running with it, give the tip of your rod that little snap that sets the hook in the bass's gums and get ready for a good brawl! Your challenge will be to keep your bass from getting into the big rocks where entering a crevice may mean snagging or cutting your line. And, believe me, big rocks are everywhere in Lake Powell.

If the shoals fail to produce good catches of largemouth, head for sheer rock walls where small shelves protrude to depths of eight to ten feet. The shelves are a natural haunt for bass. By quietly inching along such walls to a point almost above the shelves a 'dog can be dropped, cast or trolled so that it passes near the shelf and attracts the attention of any finny occupant.

There are other ways to catch bass at Lake Powell, of course. More popular all the time is what I call "The Texas Method" whereby the angler uses a short, stout rod and a rubber worm. Cruising among inundated trees in clean, shallow bays, he throws his worm about 20 feet directly into branches that protrude above the water. At the instant of a hit the rod must drag the bass out of the brush before it can become hopelessly entangled.

For good, fast action this brand of fishing can't be matched. The secret, of course, is in double-hooking the worm in a manner that will keep tip and barbs unexposed, within the rubber, allowing the bait to be drawn through brush or branches without becoming snagged.

As I said, every angler has a system for landing the wily bass. But to me there is no more beautiful sight than that of a beautiful green fish rising to the surface doing the dazzling hootchy-kootchy that means he's hungry for a plug.

That's why I say Lake Powell is beautiful in more ways than one. It has the beautiful hard fighting fish—and it also has some of the most beautiful and spectacular scenery in the world, plus placid waters for water skiing, boating, exploring and just plain relaxing. So for a weekend—or for your summer vacation this year, try Lake Powell—you'll never regret or forget your adventure!



**Desert Life**  
by Hans Baerwald

Common in coniferous forests, the Steller Jay competes with squirrels for food and is an expert at imitating the call of hawks. Hans Baerwald took this photo at the top of the Palm Springs Aerial Tramway where the jays are plentiful.

# Calendar of Western Events

MARCH 1 - DECEMBER 22. The Museum of Northern Arizona and Research Center is a non-profit organization located only a few miles outside of Flagstaff, Arizona. One of the finest museums in the United States, its presentations include archeology, ethnology, geology and biology all related to the history of the West and our Indian culture. Open seven days a week, no admission charge.

MAY 13-28, THE 46TH ANNUAL FLOWER SHOW sponsored by the Julian Woman's Club, Town Hall, Julian, Calif. Also an art show. Free.

MAY 13 & 14, EUGENE MINERAL CLUB'S annual show, Lane County Fairgrounds, Eugene, Oregon. Write Willis Morris, 2020 Hayes St., Eugene, Oregon 97405.

MAY 13 & 14 SAN JOSE ANTIQUE BOTTLE COLLECTORS ASSOCIATION'S 5th annual show and sale, Santa Clara County Fairgrounds, San Jose, Calif. Free admission. Overnight camping.

MAY 20 & 21, MAY FESTIVAL OF GEMS sponsored by the Glendale Lapidary and Gem Society, Glendale Civic Auditorium, 1401 N. Verdugo Rd., Glendale, Calif. Free admission and parking. Write Muriel Rath, 4526 Alumni Ave., Los Angeles, Calif. 90041.

MAY 20 & 21, CONVAIR ROCKHOUND CLUB annual Rock and Mineral Show, 9115 Clairemont Mesa Blvd., San Diego, Calif. Located along U.S. 395. Free parking and admission.

MAY 26-28, ANNUAL CALICO DAYS CELEBRATION, Yermo, Calif. Parade, rodeos, dances, festivities, etc. Write American Legion Post 797, P. O. Box 797, Yermo, Calif. 92398.

MAY 27, DARWIN DAYS. Western celebration. Write Mrs. H. B. Bolin, P.O. Box 100, Darwin, Calif. 93522.

MAY 27-JUNE 2, THIRD ANNUAL MULE DAYS sponsored by the Bishop Chamber of Commerce, Bishop, Calif. For information write Chamber of Commerce, City Park, Bishop Calif.

JUNE 10-17 HORNY-TOAD EXPEDITION sponsored by the Navajo Tribal Museum. A first-time trip through the back country of Navajoland for those interested in geology, arche-

ology and scenery. Participants must provide their own 4WD vehicles and sleeping bags. Limited number so if interested write immediately to: Martin Link, Curator, Navajo Tribal Museum, Window Rock, Arizona 86515.

JUNE 10 & 11, JACKPOT OF GEMS sponsored by the Reno (Nevada) Gem & Mineral Society. Exhibit Building of Reno Fairgrounds. Free admission. Special display of diamonds. Write Jean Parrish, 923 Gordon Ave., Reno, Nevada 89502.

JUNE 17 & 18, BARBED WIRE SHOW AND ANNUAL CONVENTION of the California Barbed Wire Collectors Association, Royal Palms Motor Hotel, 200 Union Ave., Bakersfield, Calif. Exhibits of antique barbed wire, fencing tools and associated material. Admission free. Write Herbert Rock, 1924 Haley St., Bakersfield, Calif. 93306.

JUNE 23-25, GEMS OF THE DESERT sponsored by the Mineralogical Society of Arizona and the Rocky Mountain Federation of Mineralogical Societies, Arizona State Fairgrounds, 19th & McDowell Streets, Phoenix, Arizona. More than \$1,000,000 in special gem and mineral displays. Dealers, swap tables, field trips. Write Robert Adams, 4222 E. Piccadilly Rd., Phoenix, Arizona 85018.

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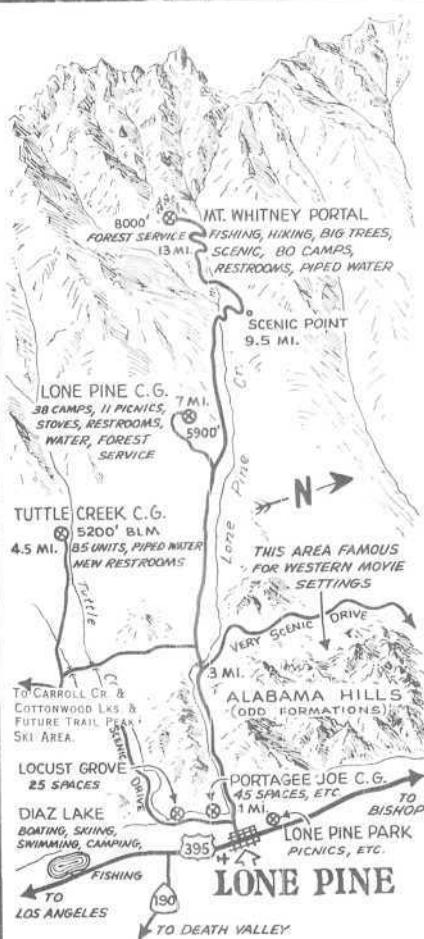


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# Notes from the Field

## For Campers

A directory listing 529 campgrounds in the National Parks has been published by the Interior Department. Send 25¢ per copy to the Government Printing Office, Washington, D.C. 20402, to receive a copy. Ask for "Camping in the National Park System."

## CALIFORNIA

As stated in the article, *Canon Rio de Las Animas*, (Oct. '71), permission to use the private roads may be obtained, locally, from the superintendent at Afton Siding.

Mrs. Louise Kempton, Field Trip Chairman of the Palmdale Gem Club, advises that permission in advance of a trip may be secured from: R.D. Smith, Supt., Union Pacific Railroad, 5500 Ferguson Dr., Los Angeles, Calif. 90023. (Our thanks to Mrs. Kempton for sharing this information with our readers.)

## Stoddard Wells Valley

Twelve thousand acres of public land in Stoddard Wells Valley have been set aside for off-road vehicle use. Signs have been erected to show the boundary limits.

Interested parties may obtain detailed maps of the area from: B.L.M., River-

side office, 1414 University Ave., Riverside, Calif. 92502. Price of the maps is 25¢ each.

## Toltec Mine

Cliff Boswell of Arroyo Grande visited the Toltec Turquoise Mine, in San Bernardino County. He reports the old tin shack is gone. This is too bad, as it made a good marker for the trail leading up the mountain to the mine.

## ARIZONA

The Pick & Shovel Antique Bottle Club of Phoenix enjoyed a field trip to the Gladiator Mine north of Crown King. They report some interesting bottles and relics were found.

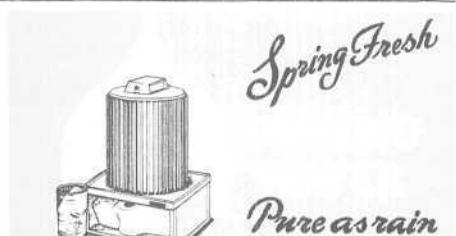
## NEVADA

### Attention Cyclists

Nevada's new motorcycle safety law went into effect on January 1, 1972. All persons driving or riding as passengers, must wear an approved helmet and protective glasses, goggles or face shield. Enforcement can be expected.

### Steamboat Springs

This mineral and agate collecting area, 10 miles south of Reno on Highway 395, is closed to all collecting. The road is



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posted and permission is not given for entry.

#### New Silver Strike

The building of a new road to the Ichthyosaur Paleontologic Park has uncovered lead-silver ore assaying at \$35 per ton. Prospectors have staked claims along both sides of the road to the summit. The realignment of the road and its paving to the summit gives good access to the park.

#### Pahrump

Governor Mike O'Callahan recently dedicated a state historical marker at the gravesite of Chief Tecopa, famed Paiute leader. Fifteen acres of land surrounding the Indian cemetery were deeded to Nye County and will be developed into a county park. Governor O'Callahan, in his address, stated "Chief Tecopa carried on his shoulders the spirit of orderly development. Like the poplar tree along the river bank, he swayed with the wind and adapted his people to the new situation." *Goldfield News.*

#### Fernley Wood

The famous opalized wood area on the Swartz Ranch has been closed to collecting since 1969 when the deposit was exhausted. I stopped and talked with Mr. Swartz and he asked me to remind our readers the area is permanently closed to collectors. He stated he would make no exceptions.

#### Highway 395, North

There is a lack of close-to-the-road, public campgrounds along Highway 395 from Reno to the Oregon border. An exception to this is Red Rock Canyon, 9.4 miles north of Hallelujah Junction. Turn east on Red Rock Road. It is marked. The campground is on the right, seven-tenths of a mile from the highway. The camp is unimproved and provides only "chic-sales," trash barrels and a few tables. However, the campsites are in a beautiful setting among large juniper trees and well away from highway noise. It makes an excellent overnight stop. We enjoyed our stay here.

#### Let Us Know!

If you know of a good campspot (such as mentioned above), please let us know. Letters telling us about an interesting trip or special area you have visited are

also welcome. Let's share our experiences with *Desert's* family of readers. Write to the address at the end of this column.

#### There Are Changes

The status of rock and bottle collecting areas, ghost towns and mines is never permanent. A locale may be open today and closed tomorrow. I will be glad to answer your inquiries provided a self-addressed, stamped envelope is enclosed. Allow ample time for my reply as I am away, at various times, from a few days to a couple of months.

Mary Frances Strong  
Field Editor,  
Desert Magazine  
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# Rambling on Rocks

by Glenn and Martha Vargas

### GEMSTONES FROM LAVA:

The Minority Group

MANY OF the minerals we know as gems have been molten, and many others were crystallized out of very hot liquids or vapors, but the greatest percentage of these actions took place deep in the earth. It would be expected that lavas, being subjected to the atmosphere and rapid cooling, would produce very few minerals that would be clear and free of fractures. This is true, but there are some notable exceptions.

Peridot (pronounced PAIR-ih-dot) is one of our finest gems, and nearly always is found in lavas. It is a very pleasing medium-to-dark-green and, as a faceted gem, exhibits much life and brilliance. The mineral is known to geologists as chrysolite. The gem sometimes is called this, and also olivene. Peridot, however, is the correct gem name. The mineral, both as non-gem and gem quality, is found in a number of types of rocks.

The location of the peridot was lost, and the name topaz was switched to another gem. In the early 1900s, the location was rediscovered, but today the material has nearly been exhausted. This name derivation and the switch to another is of

real interest to those studying gem lore. Many side issues of history have been uncovered as a result of investigation of this type of thing.

Another fine source of peridot, of sporadic productivity, is the gem gravels of the Orient. These are thought to be of lava origin. The pieces are in the form of water-worn pebbles.

Today's best source of peridot is on the Apache Indian Reservation near Globe, Arizona. Here the material is found embedded in lava. The best material usually comes out of volcanic bombs. Such bombs are masses of lava that are blown out of a volcano while the mass is still liquid, and became solid or nearly so before reaching the ground.

A group of minerals not usually considered as gem minerals are the feldspars. Some feldspars are commonly found in lava, and some are gem quality. Moonstone and sunstone are the best known of these. Moonstone is a mixture of two types of feldspar, one as very small plates enclosed in the other. Light reflects off of these small plates giving the gem a whitish glow. Sunstone is a feldspar containing small red plates of another mineral, with the red plates reflecting a bright red glow.

An excellent source of sunstone is in the desert flats of southern Oregon. Here, the pieces sometimes showing crystal form, are weathering out of lava flows and may be found in the sand flats. A clear light yellow is also found here, the sunstone being in a distinct minority. The clear yellow will also cut into good gems.

The best moonstones come from the gem gravels of the Orient, and may be associated with the peridot. The most productive supply today is from India, with colors ranging from nearly colorless through light pink, orange and yellow.

The most common and widely distributed of the "lava gems" is obsidian. This

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is a rock rather than a mineral, and is the result of very rapid cooling of a lava high in quartz. It much resembles glass. Actually, gemologists say that it is very difficult to distinguish obsidian from glass. The best indicator is color. Obsidian is known in only a few colors; opaque black, red, brownish and bordering onto a nearly transparent gray. Glass appears in these same colors, plus many more. If it is green, purple, blue, etc., glass is the decision.

When obsidian is found in a transparent state, which is seldom, it commonly is called "Apache tears." These are interesting ball-like pieces locked in a type of lava known as pitchstone. Indian legend has it that these are the solidified tears of Apache women who mourned for their men killed in battle. Transparent obsidian will cut into smoky colored faceted gems, but these are not spectacular.

Nearly all other types of obsidian is filled with small crystals of some mineral. The amount, size and type of these crystals are what make some obsidians attractive as cabochon gems. The crystals have a tendency to lie in certain planes, usually controlled by the flowing of the molten material, and probably to some extent by the rate of cooling.

The most popular of the obsidians is known as rainbow obsidian. This is filled with layers of tiny needle-like crystals that lie at slightly different angles in each layer. When this type of material is cut on exactly the correct plane, the surface of gems cut from it will show a wide variety of colors. These colors will change and shift across the gem as it is moved. The finest of this presently comes from lava beds in northern California, with some being found in southern Oregon. (See article by Mary Frances Strong in this issue.)

A more common type is known as sheen obsidian. This is only slightly different from the above, in that the enclosed cry-

stals are usually larger, and generally lie in only one plane. Here, the individual crystals (even though too small to be seen with the unaided eye) will reflect light as the gem is moved, giving it a decided sheen. There is a large deposit of this type in central Mexico, and curio shops are usually filled with Aztec-type carvings of this material. The sheen gives an almost life-like quality to these masks.

Sometimes the pattern of obsidian helps to make interesting gems. Patterns are the result of differential cooling and mixing of early forming crystals within a nearly transparent mass. These are commonly called flow lines. One desert location, on the California-Nevada border, produces an excellent type. Pieces with alternating nearly opaque bands about 1/8 inch wide alternate with clear areas of nearly the same width. These are highly prized by amateur gem cutters. In the condition it is found, it will cut into very interesting gems. If it is cut into thin slices, with these cemented together with the bands crossing, very unusual gems are produced.

Utah contains a deposit of material known as snowflake obsidian. This is a predominantly opaque black, filled with nearly spherical balls of a white mineral. This is probably a near relative of quartz, known as cristobalite. When this material is cut into gems, the balls now greatly resemble snowflakes.

The list of obsidian types above are by no means the entire possibilities, and it must be borne in mind that there are many types of obsidian that are not suitable for cutting into gems. As obsidian was once molten, and flowed out on the surface, and that it is made of many different minerals; and further, that as it was flowing, it was subjected to different temperatures, and different terrain, it is no wonder that we have such great variation. It is exactly this feature that makes it enticing to be the gem cutter. □

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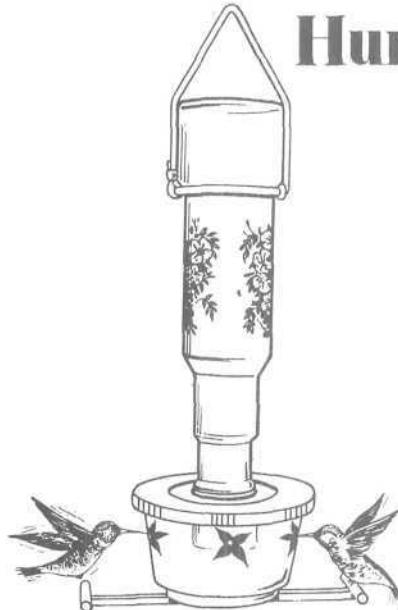
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# Letters to the Editor



Letters requesting answers must include stamped self-addressed envelope.

## Concerned Desert Driver . . .

Several months have elapsed since I read Jack Edward's letter in your January issue. At first I thought about it and then put it aside. Recently I again read his comments and I cannot help but send you my rebuttal.

I am a desert property owner and my business is involved with the desert as I operate several four-wheel-drive vehicles and take people on tours into the back country of Southern California.

Again, referring to Mr. Edward's letter, I define "damage" as the causing of injury that impairs the usefulness, the value, or the aesthetic beauty of the desert. "Fragile" means that something can be easily damaged or destroyed.

A seedling capable of tolerating the desert's extreme temperatures does not survive when run over by a 4WD or motorcycle driven by someone whose only intent is to see if he can get to the top of a hill and then turn around and race back down so he can brag that he and his vehicle are better than his competitors.

I have believed for many years that every four-wheeler, motorcyclist and buggy driver may be placed in one of two categories. Members of the first category utilize their vehicles to reach the back country because they love the desert for its beauty, its unique plants and interesting animals, and its solitude. Those in the second category love the desert too, primarily because it provides extraordinary terrain upon which they may exercise their machines.

The public image of the off-roader has been greatly improved in recent years by the clean-up campaigns and self-policing programs of the organized clubs, coupled with legislative lobbying, astute public relations, and a certain amount of pious breast-beating. But the fact remains that the majority of off-roaders are interested above all in the operation of highly specialized machinery and not in the welfare of the desert.

Four-wheelers and cyclists must recognize that the conservationists have been given more than adequate cause for deep concern over the future of our deserts. Conversely, the conservationist must realize that off-road enthusiasts are participating in a legitimate form of recreation.

I would like to compliment *Desert Magazine* for the constructive ideas they have set

forth on these problems in recent issues. And thank you for permitting the magazine to be used as a forum for the debate of these problems.

GEORGE SERVICE,  
Palm Desert, California.

## Week End Desert . . .

The April issue hit the problems of the desert squarely on the head with the "Week End Desert." You should send copies to all the motorcycle magazines!

R. BRUCE BURY,  
Berkeley, California.

After reading "Week End Desert" in the April issue I was appalled at the Number 12 on the map legend, suggesting stuffed furrries for "sportsmen" to ride down and squash.

No doubt there are some jerks who do this and call themselves sportsmen. But of America's 17 million hunters, 98 percent would hang the other 2 percent if they even thought of such a thing.

Anyone who would do this is not a sportsman, but a dedicated ghoul. Please correct your mistake for all the good sportsmen of America.

W. E. MILLER,  
Long Beach, California.

While thumbing through my April issue, I was stunned by your comic book pictorial of man, machine, and the Anza-Borrego Desert. Through your thoughtless portrayal you have stereotyped all owners of off-road vehicles as a bunch of insensitive clods, interested only in what and how much they can destroy.

Nowhere in your pictograph do you depict the Cadillac owner emptying his ashtray along the road edge, or the Buick owner tossing his beer can out the window. Nor do I see the husband and wife letting their five kids and a dog build a dam with sticks and paper and muddy up a once crystal-clear stream.

Recently I attended a large four-wheel-drive outing in the Borrego Badlands. Over 660 four-by-fours were registered, with over 2000 people, turning the area into a small city of off-road vehicles. However, when Sunday night rolled around, the desert again became itself, free of paper, trash, and the refuse of man.

Granted there were a lot of tire tracks, but these temporary scars will soon be healed by the harsh elements of the desert. This was a specially chosen area governed by the BLM, devoid of desert flora and made up of sand and clay. Off-road enthusiasts realize their growing population problem better than anyone, and are going to a great deal of time, trouble, and expense to keep the desert in a natural state.

But do other weekend visitors feel the same? Anyone who has hiked the short distance to Palm Canyon at Borrego Springs can't miss the evidence left by Mr. Hiker: the palm trees with initials carved into their fire-scarred trunks, paper plates and cups scattered on the ground,

and plastic spoons and aluminum beer cans floating in the water. This is an area that can only be reached by hiking—funny thing how people can carry a full beer or pop can two miles uphill but aren't able to carry the empty back.

George Kehew might be on the right track in depicting some of the damage done through over-use of our southwestern deserts. However, at first glance, he presents the idea that off-road vehicles and their owners will soon be responsible for the total destruction of the desert and its inhabitants. It just ain't so!

WILLIE WORTHY,  
Pomona, California.

*Editor's Note: George Kehew, who is a four-wheel-drive owner and long-time back country explorer, brought "Week End Desert" to our offices two months ago. We held several lengthy editorial conferences before we decided to publish the legend. Frankly, we are surprised that we have received only the three above letters since we expected there would be controversy (and possible misinterpretation) about the presentation.*

*Our decision to publish the pictograph was based on our sincere belief (as stated in recent issues) that unless we back-country explorers protect our deserts they will gradually be taken away from us through private and government withdrawals. This is not only true on state and county government levels, but President Nixon has directed all Federal government land agencies to submit plans for control of off-road vehicles throughout the United States.*

*We believe that in publishing "Week End Desert" it was still another way to make those concerned aware of the seriousness of this problem. We were not signalling out any one person, organization or type of vehicle; rather we wanted to dramatically present the problem—and sometimes a serious problem can be more graphically presented in a humorous vein.*

*We have constantly stated that it is not the vehicle, whether it be 4WD, dune buggy, motorcycle, camper or passenger car that is doing the damage, but the driver behind the vehicle. We believe that the destruction and littering taking place is being done by a small minority of individuals who do not respect the wilderness areas. They must be educated before they give us all a bad reputation.*

*We have also constantly stated that the organized four-wheel-drive clubs respect the desert and have done more to clean up not only their own areas, but also those that have been littered by the thoughtless individuals. They work closely with BLM and park officials in trying to educate the newcomers. We support them, and will continue to do so.*

*But we will also continue to bring our readers the seriousness of the problem facing all of us. We all must band together to protect our deserts. If we do not, eventually we will gradually be prohibited from enjoying the great outdoors.*

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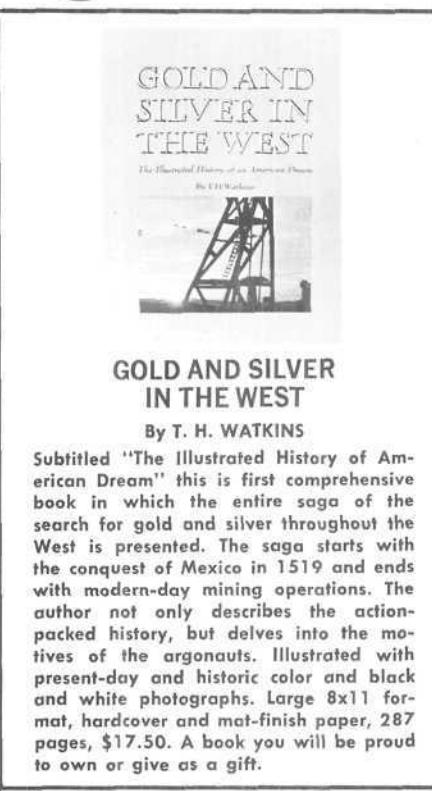
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**LOST MINES & BURIED TREASURES ALONG THE OLD FRONTIER** by John D. Mitchell. The second of Mitchell's books on lost mines which was out-of-print for many years is available again. Many of these appeared in DESERT Magazine years ago and these issues are no longer available. New readers will want to read these. Contains the original map first published with the book and one pinpointing the areas of lost mines. Mitchell's personal research and investigation has gone into the book. Hardcover, 240 pages, \$7.50.

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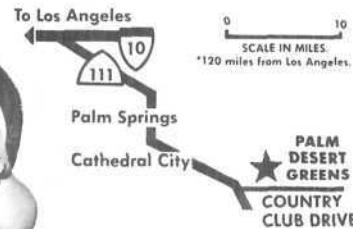
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